



SEQUENCE LISTING

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<141> 2001-03-05

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<170> PatentIn Ver. 2.1

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Glu	Asp	Arg	Val	Ser	Val	Thr	Thr	Val	Thr	Val	Gly	Leu	Ser	Thr	Val	225	230	235	240
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Gln Val Ile Thr Glu Ala Ser Thr Gly Gln Ser Gln His Leu Ile Arg  
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Thr Pro Phe Ala Gly Val Asp Asp Phe Phe Ile Pro Pro Thr Asn Leu  
 565 570 575

Ile Ile Asn His Ile Arg Phe Gly Phe Ile Phe Asn Lys Ser Asp Pro  
 580 585 590

Ala Val His Lys Val Asp Leu Glu Thr Met Met Pro Leu Lys Thr Ile  
 595 600 605

Gly Leu His His His Gly Cys Val Pro Gln Ala Met Ala His Thr His  
 610 615 620

Leu Gly Gly Tyr Phe Phe Ile Gln Cys Arg Gln Asp Ser Pro Ala Ser  
 625 630 635 640

Ala Ala Arg Gln Leu Leu Val Asp Ser Val Thr Asp Ser Val Leu Gly  
 645 650 655

Pro Asn Gly Asp Val Thr Gly Thr Pro His Thr Ser Pro Asp Gly Arg  
 660 665 670

Phe Ile Val Ser Ala Ala Ala Asp Ser Pro Trp Leu His Val Gln Glu  
 675 680 685

Ile Thr Val Arg Gly Glu Ile Gln Thr Leu Tyr Asp Leu Gln Ile Asn  
 690 695 700

Ser Gly Ile Ser Asp Leu Ala Phe Gln Arg Ser Phe Thr Glu Ser Asn  
 705 710 715 720

Gln Tyr Asn Ile Tyr Ala Ala Leu His Thr Glu Pro Asp Leu Leu Phe  
 725 730 735

Leu Glu Leu Ser Thr Gly Lys Val Gly Met Leu Lys Asn Leu Lys Glu  
 740 745 750

Pro Pro Ala Gly Pro Ala Gln Pro Trp Gly Gly Thr His Arg Ile Met  
 755 760 765

Arg Asp Ser Gly Leu Phe Gly Gln Tyr Leu Leu Thr Pro Ala Arg Glu  
 770 775 780

Ser Leu Phe Leu Ile Asn Gly Arg Gln Asn Thr Leu Arg Cys Glu Val  
 785 790 795 800

Ser Gly Ile Lys Gly Gly Thr Thr Val Val Trp Val Gly Glu Val  
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 Met Leu His Ala Ala Asn Lys Gly Arg Lys Pro Ser Ala Glu  
 1 5 10

gca ggt cgt ccc att cca cct aca tcc tcg cct agt ctc ctc cca tct 158  
 Ala Gly Arg Pro Ile Pro Pro Thr Ser Ser Pro Ser Leu Leu Pro Ser  
 15 20 25 30

gct cag ctg cct agc tcc cat aat cct cca cca gtt agc tgc cag atg 206  
 Ala Gln Leu Pro Ser Ser His Asn Pro Pro Pro Val Ser Cys Gln Met  
 35 40 45

cca ttg cta gac agc aac acc tcc cat caa atc atg gac acc aac cct 254  
 Pro Leu Leu Asp Ser Asn Thr Ser His Gln Ile Met Asp Thr Asn Pro  
 50 55 60

gat gag gaa ttc tcc ccc aat tca tac ctg ctc aga gca tgc tca ggg 302  
 Asp Glu Glu Phe Ser Pro Asn Ser Tyr Leu Leu Arg Ala Cys Ser Gly  
 65 70 75

ccc cag caa gcc tcc agc agt ggc cct ccg aac cac cac agc cag tcg 350  
 Pro Gln Gln Ala Ser Ser Ser Gly Pro Pro Asn His His Ser Gln Ser  
 80 85 90

act ctg agg ccc cct ctc cca ccc cct cac aac cac acg ctg tcc cat 398

Thr	Leu	Arg	Pro	Pro	Leu	Pro	Pro	Pro	His	Asn	His	Thr	Leu	Ser	His	
95					100					105					110	
cac	cac	tcg	tcc	gcc	aac	tcc	ctc	aac	agg	aac	tca	ctg	acc	aat	cgg	446
His	His	Ser	Ser	Ala	Asn	Ser	Leu	Asn	Arg	Asn	Ser	Leu	Thr	Asn	Arg	
				115					120					125		
cgg	agt	cag	atc	cac	gcc	ccg	gcc	cca	gcg	ccc	aat	gac	ctg	gcc	acc	494
Arg	Ser	Gln	Ile	His	Ala	Pro	Ala	Pro	Ala	Pro	Asn	Asp	Leu	Ala	Thr	
			130						135					140		
aca	cca	gag	tcc	gtt	cag	ctt	cag	gac	agc	tgg	gtg	cta	aac	agc	aac	542
Thr	Pro	Glu	Ser	Val	Gln	Leu	Gln	Asp	Ser	Trp	Val	Leu	Asn	Ser	Asn	
			145					150						155		
gtg	cca	ctg	gag	acc	cgg	cac	ttc	ctc	ttc	aag	acc	tcc	tcg	ggg	agc	590
Val	Pro	Leu	Glu	Thr	Arg	His	Phe	Leu	Phe	Lys	Thr	Ser	Ser	Gly	Ser	
			160				165				170					
aca	ccc	ttg	ttc	agc	agc	tct	tcc	ccg	gga	tac	cct	ttg	acc	tca	gga	638
Thr	Pro	Leu	Phe	Ser	Ser	Ser	Ser	Pro	Gly	Tyr	Pro	Leu	Thr	Ser	Gly	
175					180					185					190	
acg	gtt	tac	acg	ccc	ccg	ccc	cgc	ctg	ctg	ccc	agg	aat	act	ttc	tcc	686
Thr	Val	Tyr	Thr	Pro	Pro	Pro	Arg	Leu	Leu	Pro	Arg	Asn	Thr	Phe	Ser	
				195						200				205		
agg	aag	gct	ttc	aag	ctg	aag	aag	ccc	tcc	aaa	tac	tgc	agc	tgg	aaa	734
Arg	Lys	Ala	Phe	Lys	Leu	Lys	Lys	Pro	Ser	Lys	Tyr	Cys	Ser	Trp	Lys	
			210						215					220		
tgt	gct	gcc	ctc	tcc	gcc	att	gcc	gcg	gcc	ctc	ctc	ttg	gct	att	ttg	782
Cys	Ala	Ala	Leu	Ser	Ala	Ile	Ala	Ala	Ala	Leu	Leu	Leu	Ala	Ile	Leu	
			225					230					235			
ctg	gcg	tat	ttc	ata	gtg	ccc	tgg	tcg	ttg	aaa	aac	agc	agc	ata	gac	830
Leu	Ala	Tyr	Phe	Ile	Val	Pro	Trp	Ser	Leu	Lys	Asn	Ser	Ser	Ile	Asp	
			240				245				250					
agt	ggt	gaa	gca	gaa	gtt	ggt	cgg	cgg	gta	aca	caa	gaa	gtc	cca	cca	878
Ser	Gly	Glu	Ala	Glu	Val	Gly	Arg	Arg	Val	Thr	Gln	Glu	Val	Pro	Pro	
255					260					265					270	
ggg	gtg	ttt	tgg	agg	tca	caa	att	cac	atc	agt	cag	ccc	cag	ttc	tta	926
Gly	Val	Phe	Trp	Arg	Ser	Gln	Ile	His	Ile	Ser	Gln	Pro	Gln	Phe	Leu	
				275					280					285		
aag	ttc	aac	atc	tcc	ctc	ggg	aag	gac	gct	ctc	ttt	ggt	ggt	tac	ata	974

Lys Phe Asn Ile Ser Leu Gly Lys Asp Ala Leu Phe Gly Val Tyr Ile  
 290 295 300  
 aga aga gga ctt cca cca tct cat gcc cag tat gac ttc atg gaa cgt 1022  
 Arg Arg Gly Leu Pro Pro Ser His Ala Gln Tyr Asp Phe Met Glu Arg  
 305 310 315  
 ctg gac ggg aag gag aag tgg agt gtg gtt gag tct ccc agg gaa cgc 1070  
 Leu Asp Gly Lys Glu Lys Trp Ser Val Val Glu Ser Pro Arg Glu Arg  
 320 325 330  
 cgg agc ata cag acc ttg gtt cag aat gaa gcc gtg ttt gtg cag tac 1118  
 Arg Ser Ile Gln Thr Leu Val Gln Asn Glu Ala Val Phe Val Gln Tyr  
 335 340 345 350  
 ctg gat gtg ggc ctg tgg cat ctg gcc ttc tac aat gat gga aaa gac 1166  
 Leu Asp Val Gly Leu Trp His Leu Ala Phe Tyr Asn Asp Gly Lys Asp  
 355 360 365  
 aaa gag atg gtt tcc ttc aat act gtt gtc cta gat ggg acc atc 1211  
 Lys Glu Met Val Ser Phe Asn Thr Val Val Leu Asp Gly Thr Ile  
 370 375 380  
 tagttgcaga aaaacaagct cagggcgccc actgatttga cattatgatt cagtgcagga 1271  
 ctgtccacgt aactgccatg ggaatggtga atgtgtgtcc ggggtgtgtc actgtttccc 1331  
 aggatttcta ggagcagact gtgctaaaga ccttcctgcc ttgactttct gcaagacaat 1391  
 cattaataaa gctgctctgt aaatactaaa aaaaaaaca 1430

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 20 25 30  
 Leu Pro Ser Ser His Asn Pro Pro Pro Val Ser Cys Gln Met Pro Leu  
 35 40 45  
 Leu Asp Ser Asn Thr Ser His Gln Ile Met Asp Thr Asn Pro Asp Glu

50		55		60
Glu Phe Ser Pro Asn Ser Tyr Leu Leu Arg Ala Cys Ser Gly Pro Gln				
65		70		75
				80
Gln Ala Ser Ser Ser Gly Pro Pro Asn His His Ser Gln Ser Thr Leu				
		85		90
				95
Arg Pro Pro Leu Pro Pro Pro His Asn His Thr Leu Ser His His His				
		100		105
				110
Ser Ser Ala Asn Ser Leu Asn Arg Asn Ser Leu Thr Asn Arg Arg Ser				
		115		120
				125
Gln Ile His Ala Pro Ala Pro Ala Pro Asn Asp Leu Ala Thr Thr Pro				
		130		135
				140
Glu Ser Val Gln Leu Gln Asp Ser Trp Val Leu Asn Ser Asn Val Pro				
145		150		155
				160
Leu Glu Thr Arg His Phe Leu Phe Lys Thr Ser Ser Gly Ser Thr Pro				
		165		170
				175
Leu Phe Ser Ser Ser Ser Pro Gly Tyr Pro Leu Thr Ser Gly Thr Val				
		180		185
				190
Tyr Thr Pro Pro Pro Arg Leu Leu Pro Arg Asn Thr Phe Ser Arg Lys				
		195		200
				205
Ala Phe Lys Leu Lys Lys Pro Ser Lys Tyr Cys Ser Trp Lys Cys Ala				
		210		215
				220
Ala Leu Ser Ala Ile Ala Ala Ala Leu Leu Leu Ala Ile Leu Leu Ala				
225		230		235
				240
Tyr Phe Ile Val Pro Trp Ser Leu Lys Asn Ser Ser Ile Asp Ser Gly				
		245		250
				255
Glu Ala Glu Val Gly Arg Arg Val Thr Gln Glu Val Pro Pro Gly Val				
		260		265
				270
Phe Trp Arg Ser Gln Ile His Ile Ser Gln Pro Gln Phe Leu Lys Phe				
		275		280
				285
Asn Ile Ser Leu Gly Lys Asp Ala Leu Phe Gly Val Tyr Ile Arg Arg				
		290		295
				300
Gly Leu Pro Pro Ser His Ala Gln Tyr Asp Phe Met Glu Arg Leu Asp				



305		310		315		320									
Gly	Lys	Glu	Lys	Trp	Ser	Val	Val	Glu	Ser	Pro	Arg	Glu	Arg	Arg	Ser
				325					330					335	
Ile	Gln	Thr	Leu	Val	Gln	Asn	Glu	Ala	Val	Phe	Val	Gln	Tyr	Leu	Asp
			340					345					350		
Val	Gly	Leu	Trp	His	Leu	Ala	Phe	Tyr	Asn	Asp	Gly	Lys	Asp	Lys	Glu
		355					360					365			
Met	Val	Ser	Phe	Asn	Thr	Val	Val	Leu	Asp	Gly	Thr	Ile			
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 gcagattgga ttccccgtga gggctttctt cctggcttga agttggctgc tttcctgctg 180  
 agactttctca tggcagagac tgagggtggc aaagtgacaa gtgccaaaac tcaggcctga 240  
 cttttctgaa aacatcagca ttctgccata tctggaata atg gat gta aag gac 294  
 Met Asp Val Lys Asp  
 1 5  
 cgg cga cac cgc tct ttg acc aga gga cgc tgt ggc aaa gag tgt cgc 342  
 Arg Arg His Arg Ser Leu Thr Arg Gly Arg Cys Gly Lys Glu Cys Arg  
 10 15 20  
 tac aca agc tcc tct ctg gac agt gag gac tgc cgg gtg ccc aca cag 390  
 Tyr Thr Ser Ser Ser Leu Asp Ser Glu Asp Cys Arg Val Pro Thr Gln  
 25 30 35  
 aaa tcc tac agc tcc agt gag act ctg aag gcc tat gac cat gac agc 438  
 Lys Ser Tyr Ser Ser Ser Glu Thr Leu Lys Ala Tyr Asp His Asp Ser

40	45	50	
agg atg cac tat gga aac cga gtc aca gac ctc atc cac cgg gag tca			486
Arg Met His Tyr Gly Asn Arg Val Thr Asp Leu Ile His Arg Glu Ser			
55	60	65	
gat gag ttt cct aga caa gga acc aac ttc acc ctt gcc gaa ctg ggc			534
Asp Glu Phe Pro Arg Gln Gly Thr Asn Phe Thr Leu Ala Glu Leu Gly			
70	75	80	85
atc tgt gag ccc tcc cca cac cga agc ggc tac tgc tcc gac atg ggg			582
Ile Cys Glu Pro Ser Pro His Arg Ser Gly Tyr Cys Ser Asp Met Gly			
	90	95	100
atc ctt cac cag ggc tac tcc ctt agc aca ggg tct gac gcc gac tcc			630
Ile Leu His Gln Gly Tyr Ser Leu Ser Thr Gly Ser Asp Ala Asp Ser			
	105	110	115
gac acc gag gga ggg atg tct cca gaa cac gcc atc aga ctg tgg ggc			678
Asp Thr Glu Gly Gly Met Ser Pro Glu His Ala Ile Arg Leu Trp Gly			
	120	125	130
aga ggg ata aaa tcc agg cgc agt tcc ggc ctg tcc agt cgt gaa aac			726
Arg Gly Ile Lys Ser Arg Arg Ser Ser Gly Leu Ser Ser Arg Glu Asn			
	135	140	145
tcg gcc ctt acc ctg act gac tct gac aac gaa aac aaa tca gat gat			774
Ser Ala Leu Thr Leu Thr Asp Ser Asp Asn Glu Asn Lys Ser Asp Asp			
150	155	160	165
gag aac ggt cgt ccc att cca cct aca tcc tcg cct agt ctc ctc cca			822
Glu Asn Gly Arg Pro Ile Pro Pro Thr Ser Ser Pro Ser Leu Leu Pro			
	170	175	180
tct gct cag ctg cct agc tcc cat aat cct cca cca gtt agc tgc cag			870
Ser Ala Gln Leu Pro Ser Ser His Asn Pro Pro Pro Val Ser Cys Gln			
	185	190	195
atg cca ttg cta gac agc aac acc tcc cat caa atc atg gac acc aac			918
Met Pro Leu Leu Asp Ser Asn Thr Ser His Gln Ile Met Asp Thr Asn			
	200	205	210
cct gat gag gaa ttc tcc ccc aat tca tac ctg ctc aga gca tgc tca			966
Pro Asp Glu Glu Phe Ser Pro Asn Ser Tyr Leu Leu Arg Ala Cys Ser			
	215	220	225
ggg ccc cag caa gcc tcc agc agt ggc cct ccg aac cac cac agc cag			1014
Gly Pro Gln Gln Ala Ser Ser Ser Gly Pro Pro Asn His His Ser Gln			

230	235	240	245	
tcg act ctg agg ccc cct ctc cca ccc cct cac aac cac acg ctg tcc				1062
Ser Thr Leu Arg Pro Pro Leu Pro Pro Pro His Asn His Thr Leu Ser				
	250	255	260	
cat cac cac tcg tcc gcc aac tcc ctc aac agg aac tca ctg acc aat				1110
His His His Ser Ser Ala Asn Ser Leu Asn Arg Asn Ser Leu Thr Asn				
	265	270	275	
cgg cgg agt cag atc cac gcc cgg gcc cca gcg ccc aat gac ctg gcc				1158
Arg Arg Ser Gln Ile His Ala Pro Ala Pro Ala Pro Asn Asp Leu Ala				
	280	285	290	
acc aca cca gag tcc gtt cag ctt cag gac agc tgg gtg cta aac agc				1206
Thr Thr Pro Glu Ser Val Gln Leu Gln Asp Ser Trp Val Leu Asn Ser				
	295	300	305	
aac gtg cca ctg gag acc cgg cac ttc ctc ttc aag acc tcc tcg ggg				1254
Asn Val Pro Leu Glu Thr Arg His Phe Leu Phe Lys Thr Ser Ser Gly				
310	315	320	325	
agc aca ccc ttg ttc agc agc tct tcc ccg gga tac cct ttg acc tca				1302
Ser Thr Pro Leu Phe Ser Ser Ser Ser Pro Gly Tyr Pro Leu Thr Ser				
	330	335	340	
gga acg gtt tac acg ccc ccg ccc cgc ctg ctg ccc agg aat act ttc				1350
Gly Thr Val Tyr Thr Pro Pro Pro Arg Leu Leu Pro Arg Asn Thr Phe				
	345	350	355	
tcc agg aag gct ttc aag ctg aag aag ccc tcc aaa tac tgc agc tgg				1398
Ser Arg Lys Ala Phe Lys Leu Lys Lys Pro Ser Lys Tyr Cys Ser Trp				
	360	365	370	
aaa tgt gct gcc ctc tcc gcc att gcc gcg gcc ctc ctc ttg gct att				1446
Lys Cys Ala Ala Leu Ser Ala Ile Ala Ala Ala Leu Leu Leu Ala Ile				
	375	380	385	
ttg ctg gcg tat ttc ata gtg ccc tgg tcg ttg aaa aac agc agc ata				1494
Leu Leu Ala Tyr Phe Ile Val Pro Trp Ser Leu Lys Asn Ser Ser Ile				
390	395	400	405	
gac agt ggt gaa gca gaa gtt ggt cgg cgg gta aca caa gaa gtc cca				1542
Asp Ser Gly Glu Ala Glu Val Gly Arg Arg Val Thr Gln Glu Val Pro				
	410	415	420	
cca ggg gtg ttt tgg agg tca caa att cac atc agt cag ccc cag ttc				1590
Pro Gly Val Phe Trp Arg Ser Gln Ile His Ile Ser Gln Pro Gln Phe				

425	430	435	
tta aag ttc aac atc tcc ctc ggg aag gac gct ctc ttt ggt gtt tac			1638
Leu Lys Phe Asn Ile Ser Leu Gly Lys Asp Ala Leu Phe Gly Val Tyr			
440	445	450	
ata aga aga gga ctt cca cca tct cat gcc cag tat gac ttc atg gaa			1686
Ile Arg Arg Gly Leu Pro Pro Ser His Ala Gln Tyr Asp Phe Met Glu			
455	460	465	
cgt ctg gac ggg aag gag aag tgg agt gtg gtt gag tct ccc agg gaa			1734
Arg Leu Asp Gly Lys Glu Lys Trp Ser Val Val Glu Ser Pro Arg Glu			
470	475	480	485
cgc cgg agc ata cag acc ttg gtt cag aat gaa gcc gtg ttt gtg cag			1782
Arg Arg Ser Ile Gln Thr Leu Val Gln Asn Glu Ala Val Phe Val Gln			
490	495	500	
tac ctg gat gtg ggc ctg tgg cat ctg gcc ttc tac aat gat gga aaa			1830
Tyr Leu Asp Val Gly Leu Trp His Leu Ala Phe Tyr Asn Asp Gly Lys			
505	510	515	
gac aaa gag atg gtt tcc ttc aat act gtt gtc cta gat tca gtg cag			1878
Asp Lys Glu Met Val Ser Phe Asn Thr Val Val Leu Asp Ser Val Gln			
520	525	530	
gac tgt cca cgt aac tgc cat ggg aat ggt gaa tgt gtg tcc ggg gtg			1926
Asp Cys Pro Arg Asn Cys His Gly Asn Gly Glu Cys Val Ser Gly Val			
535	540	545	
tgt cac tgt ttc cca gga ttt cta gga gca gac tgt gct aaa gct gcc			1974
Cys His Cys Phe Pro Gly Phe Leu Gly Ala Asp Cys Ala Lys Ala Ala			
550	555	560	565
tgc cct gtc ctg tgc agt ggg aat gga caa tat tct aaa ggg acg tgc			2022
Cys Pro Val Leu Cys Ser Gly Asn Gly Gln Tyr Ser Lys Gly Thr Cys			
570	575	580	
cag tgc tac agc ggc tgg aaa ggt gca gag tgc gac gtg ccc atg aat			2070
Gln Cys Tyr Ser Gly Trp Lys Gly Ala Glu Cys Asp Val Pro Met Asn			
585	590	595	
cag tgc atc gat cct tcc tgc ggg ggc cac ggc tcc tgc att gat ggg			2118
Gln Cys Ile Asp Pro Ser Cys Gly Gly His Gly Ser Cys Ile Asp Gly			
600	605	610	
aac tgt gtc tgc tct gct ggc tac aaa ggc gag cac tgt gag gaa gtt			2166
Asn Cys Val Cys Ser Ala Gly Tyr Lys Gly Glu His Cys Glu Glu Val			

615	620	625	
gat tgc ttg gat ccc acc tgc tcc agc cac gga gtc tgt gtg aat gga			2214
Asp Cys Leu Asp Pro Thr Cys Ser Ser His Gly Val Cys Val Asn Gly			
630	635	640	645
gaa tgc ctg tgc agc cct ggc tgg ggt ggt ctg aac tgt gag ctg gcg			2262
Glu Cys Leu Cys Ser Pro Gly Trp Gly Gly Leu Asn Cys Glu Leu Ala			
	650	655	660
agg gtc cag tgc cca gac cag tgc agt ggg cat ggc acg tac ctg cct			2310
Arg Val Gln Cys Pro Asp Gln Cys Ser Gly His Gly Thr Tyr Leu Pro			
	665	670	675
gac acg ggc ctc tgc agc tgc gat ccc aac tgg atg ggt ccc gac tgc			2358
Asp Thr Gly Leu Cys Ser Cys Asp Pro Asn Trp Met Gly Pro Asp Cys			
	680	685	690
tct gtt gaa gtg tgc tca gta gac tgt ggc act cac ggc gtc tgc atc			2406
Ser Val Glu Val Cys Ser Val Asp Cys Gly Thr His Gly Val Cys Ile			
	695	700	705
ggg gga gcc tgc cgc tgt gaa gag ggc tgg aca ggc gca gcg tgt gac			2454
Gly Gly Ala Cys Arg Cys Glu Glu Gly Trp Thr Gly Ala Ala Cys Asp			
710	715	720	725
cag cgc gtg tgc cac ccc cgc tgc att gag cac ggc acc tgt aaa gat			2502
Gln Arg Val Cys His Pro Arg Cys Ile Glu His Gly Thr Cys Lys Asp			
	730	735	740
ggc aaa tgt gaa tgc cga gag ggc tgg aat ggt gaa cac tgc acc att			2550
Gly Lys Cys Glu Cys Arg Glu Gly Trp Asn Gly Glu His Cys Thr Ile			
	745	750	755
ggt agg caa acg gca ggc acc gaa aca gat ggc tgc cct gac ttg tgc			2598
Gly Arg Gln Thr Ala Gly Thr Glu Thr Asp Gly Cys Pro Asp Leu Cys			
	760	765	770
aac ggt aac ggg aga tgc aca ctg ggt cag aac agc tgg cag tgt gtc			2646
Asn Gly Asn Gly Arg Cys Thr Leu Gly Gln Asn Ser Trp Gln Cys Val			
	775	780	785
tgc cag acc ggc tgg aga ggg ccc gga tgc aac gtt gcc atg gaa act			2694
Cys Gln Thr Gly Trp Arg Gly Pro Gly Cys Asn Val Ala Met Glu Thr			
790	795	800	805
tcc tgt gct gat aac aag gat aat gag gga gat ggc ctg gtg gat tgt			2742
Ser Cys Ala Asp Asn Lys Asp Asn Glu Gly Asp Gly Leu Val Asp Cys			

810	815	820	
ttg gac cct gac tgc tgc ctg cag tca gcc tgt cag aac agc ctg ctc			2790
Leu Asp Pro Asp Cys Cys Leu Gln Ser Ala Cys Gln Asn Ser Leu Leu			
825	830	835	
tgc cgg ggg tcc cgg gac cca ctg gac atc att cag cag ggc cag acg			2838
Cys Arg Gly Ser Arg Asp Pro Leu Asp Ile Ile Gln Gln Gly Gln Thr			
840	845	850	
gat tgg ccc gca gtg aag tcc ttc tat gac cgt atc aag ctc ttg gca			2886
Asp Trp Pro Ala Val Lys Ser Phe Tyr Asp Arg Ile Lys Leu Leu Ala			
855	860	865	
ggc aag gat agc acc cac atc att cct gga gag aac cct ttc aac agc			2934
Gly Lys Asp Ser Thr His Ile Ile Pro Gly Glu Asn Pro Phe Asn Ser			
870	875	880	885
agc ttg gtt tct ctc atc cga ggc caa gta gta act aca gat gga act			2982
Ser Leu Val Ser Leu Ile Arg Gly Gln Val Val Thr Thr Asp Gly Thr			
890	895	900	
ccc ctg gtc ggt gtg aac gtg tct ttt gtc aag tac cca aaa tac ggc			3030
Pro Leu Val Gly Val Asn Val Ser Phe Val Lys Tyr Pro Lys Tyr Gly			
905	910	915	
tac acc atc acc cgc cag gat ggc acg ttc gac ctg atc gca aat gga			3078
Tyr Thr Ile Thr Arg Gln Asp Gly Thr Phe Asp Leu Ile Ala Asn Gly			
920	925	930	
ggt gct tcc ttg act cta cac ttt gag cga gcc ccg ttc atg agc cag			3126
Gly Ala Ser Leu Thr Leu His Phe Glu Arg Ala Pro Phe Met Ser Gln			
935	940	945	
gag cgc act gtg tgg ctg ccg tgg aac agc ttt tac gcc atg gac acc			3174
Glu Arg Thr Val Trp Leu Pro Trp Asn Ser Phe Tyr Ala Met Asp Thr			
950	955	960	965
ctg gtg atg aag acc gag gag aac tcc atc ccc agc tgt gac ctc agt			3222
Leu Val Met Lys Thr Glu Glu Asn Ser Ile Pro Ser Cys Asp Leu Ser			
970	975	980	
ggc ttt gtc cgg cct gat cca atc atc atc tcc tcc cca ctg tcc acc			3270
Gly Phe Val Arg Pro Asp Pro Ile Ile Ile Ser Ser Pro Leu Ser Thr			
985	990	995	
ttc ttt agt gct gcc cct ggg cag aat ccc atc gtg cct gag acc cag			3318
Phe Phe Ser Ala Ala Pro Gly Gln Asn Pro Ile Val Pro Glu Thr Gln			

1000	1005	1010	
gtt ctt cat gaa gaa atc gag ctc cct ggt tcc aat gtg aaa ctt cgc			3366
Val Leu His Glu Glu Ile Glu Leu Pro Gly Ser Asn Val Lys Leu Arg			
1015	1020	1025	
tat ctg agc tct aga act gca ggg tac aag tca ctg ctg aag atc acc			3414
Tyr Leu Ser Ser Arg Thr Ala Gly Tyr Lys Ser Leu Leu Lys Ile Thr			
1030	1035	1040	1045
atg acc cag tcc aca gtg ccc ctg aac ctc att agg gtt cac ctg atg			3462
Met Thr Gln Ser Thr Val Pro Leu Asn Leu Ile Arg Val His Leu Met			
	1050	1055	1060
gtg gct gtc gag ggg cat ctc ttc cag aag tca ttc cag gct tct ccc			3510
Val Ala Val Glu Gly His Leu Phe Gln Lys Ser Phe Gln Ala Ser Pro			
1065	1070	1075	
aac ctg gcc tcc acc ttc atc tgg gac aag aca gat gcg tat ggc caa			3558
Asn Leu Ala Ser Thr Phe Ile Trp Asp Lys Thr Asp Ala Tyr Gly Gln			
1080	1085	1090	
agg gtg tat gga ctc tca gat gct gtt gtg tct gtc ggg ttt gaa tat			3606
Arg Val Tyr Gly Leu Ser Asp Ala Val Val Ser Val Gly Phe Glu Tyr			
1095	1100	1105	
gag acc tgt ccc agt cta att ctc tgg gag aaa agg aca gcc ctc ctt			3654
Glu Thr Cys Pro Ser Leu Ile Leu Trp Glu Lys Arg Thr Ala Leu Leu			
1110	1115	1120	1125
cag gga ttc gag ctg gac ccc tcc aac ctc ggt ggc tgg tcc cta gac			3702
Gln Gly Phe Glu Leu Asp Pro Ser Asn Leu Gly Gly Trp Ser Leu Asp			
1130	1135	1140	
aaa cac cac atc ctc aat gtt aaa agt gga atc cta cac aaa ggc act			3750
Lys His His Ile Leu Asn Val Lys Ser Gly Ile Leu His Lys Gly Thr			
1145	1150	1155	
ggg gaa aac cag ttc ctg acc cag cag cct gcc atc atc acc agc atc			3798
Gly Glu Asn Gln Phe Leu Thr Gln Gln Pro Ala Ile Ile Thr Ser Ile			
1160	1165	1170	
atg ggc aat ggt cgc cgc cgg agc att tcc tgt ccc agc tgc aac ggc			3846
Met Gly Asn Gly Arg Arg Ser Ile Ser Cys Pro Ser Cys Asn Gly			
1175	1180	1185	
ctt gct gaa ggc aac aag ctg ctg gcc cca gtg gct ctg gct gtt gga			3894
Leu Ala Glu Gly Asn Lys Leu Leu Ala Pro Val Ala Leu Ala Val Gly			

1190	1195	1200	1205	
atc gat ggg agc ctc tat gtg ggt gac ttc aat tac atc cga cgc atc				3942
Ile Asp Gly Ser Leu Tyr Val Gly Asp Phe Asn Tyr Ile Arg Arg Ile				
	1210	1215	1220	
ttt ccc tct cga aat gtg acc agc atc ttg gag tta cga aat aaa gag				3990
Phe Pro Ser Arg Asn Val Thr Ser Ile Leu Glu Leu Arg Asn Lys Glu				
	1225	1230	1235	
ttt aaa cat agc aac aac cca gca cac aag tac tac ttg gca gtg gac				4038
Phe Lys His Ser Asn Asn Pro Ala His Lys Tyr Tyr Leu Ala Val Asp				
	1240	1245	1250	
ccc gtg tcc ggc tcg ctc tac gtg tcc gac acc aac agc agg aga atc				4086
Pro Val Ser Gly Ser Leu Tyr Val Ser Asp Thr Asn Ser Arg Arg Ile				
	1255	1260	1265	
tac cgc gtc aag tct ctg agt gga acc aaa gac ctg gct ggg aat tcg				4134
Tyr Arg Val Lys Ser Leu Ser Gly Thr Lys Asp Leu Ala Gly Asn Ser				
	1270	1275	1280	1285
gaa gtt gtg gca ggg acg gga gag cag tgt cta ccc ttt gat gaa gcc				4182
Glu Val Val Ala Gly Thr Gly Glu Gln Cys Leu Pro Phe Asp Glu Ala				
	1290	1295	1300	
cgc tgc ggg gat gga ggg aag gcc ata gat gca acc ctg atg agc ccg				4230
Arg Cys Gly Asp Gly Gly Lys Ala Ile Asp Ala Thr Leu Met Ser Pro				
	1305	1310	1315	
aga ggt att gca gta gac aag aat ggg ctc atg tac ttt gtc gat gcc				4278
Arg Gly Ile Ala Val Asp Lys Asn Gly Leu Met Tyr Phe Val Asp Ala				
	1320	1325	1330	
acc atg atc cgg aag gtt gac cag aat gga atc atc tcc acc ctg ctg				4326
Thr Met Ile Arg Lys Val Asp Gln Asn Gly Ile Ile Ser Thr Leu Leu				
	1335	1340	1345	
ggc tcc aat gac ctc act gcc gtc cgg ccg ctg agc tgt gat tcc agc				4374
Gly Ser Asn Asp Leu Thr Ala Val Arg Pro Leu Ser Cys Asp Ser Ser				
	1350	1355	1360	1365
atg gat gta gcc cag gtt cgt ctg gag tgg cca aca gac ctt gct gtc				4422
Met Asp Val Ala Gln Val Arg Leu Glu Trp Pro Thr Asp Leu Ala Val				
	1370	1375	1380	
aat ccc atg gat aac tcc ttg tat gtt cta gag aac aat gtc atc ctt				4470
Asn Pro Met Asp Asn Ser Leu Tyr Val Leu Glu Asn Asn Val Ile Leu				



1385	1390	1395	
cga atc acc gag aac cac caa gtc agc atc att gcg gga cgc ccc atg			4518
Arg Ile Thr Glu Asn His Gln Val Ser Ile Ile Ala Gly Arg Pro Met			
1400	1405	1410	
cac tgc caa gtt cct ggc att gac tac tca ctc agc aaa cta gcc att			4566
His Cys Gln Val Pro Gly Ile Asp Tyr Ser Leu Ser Lys Leu Ala Ile			
1415	1420	1425	
cac tct gcc ctg gag tca gcc agt gcc att gcc att tct cac act ggg			4614
His Ser Ala Leu Glu Ser Ala Ser Ala Ile Ala Ile Ser His Thr Gly			
1430	1435	1440	1445
gtc ctc tac atc act gag aca gat gag aag aag att aac cgt cta cgc			4662
Val Leu Tyr Ile Thr Glu Thr Asp Glu Lys Lys Ile Asn Arg Leu Arg			
1450	1455	1460	
cag gta aca acc aac ggg gag atc tgc ctt tta gct ggg gca gcc tcg			4710
Gln Val Thr Thr Asn Gly Glu Ile Cys Leu Leu Ala Gly Ala Ala Ser			
1465	1470	1475	
gac tgc gac tgc aaa aac gat gtc aat tgc aac tgc tat tca gga gat			4758
Asp Cys Asp Cys Lys Asn Asp Val Asn Cys Asn Cys Tyr Ser Gly Asp			
1480	1485	1490	
gat gcc tac gcg act gat gcc atc ttg aat tcc cca tca tcc tta gct			4806
Asp Ala Tyr Ala Thr Asp Ala Ile Leu Asn Ser Pro Ser Ser Leu Ala			
1495	1500	1505	
gta gct cca gat ggt acc att tac att gca gac ctt gga aat att cgg			4854
Val Ala Pro Asp Gly Thr Ile Tyr Ile Ala Asp Leu Gly Asn Ile Arg			
1510	1515	1520	1525
atc agg gcg gtc agc aag aac aag cct gtt ctt aat gcc ttc aac cag			4902
Ile Arg Ala Val Ser Lys Asn Lys Pro Val Leu Asn Ala Phe Asn Gln			
1530	1535	1540	
tat gag gct gca tcc ccc gga gag cag gag tta tat gtt ttc aac gct			4950
Tyr Glu Ala Ala Ser Pro Gly Glu Gln Glu Leu Tyr Val Phe Asn Ala			
1545	1550	1555	
gat ggc atc cac caa tac act gtg agc ctg gtg aca ggg gag tac ttg			4998
Asp Gly Ile His Gln Tyr Thr Val Ser Leu Val Thr Gly Glu Tyr Leu			
1560	1565	1570	
tac aat ttc aca tat agt act gac aat gat gtc act gaa ttg att gac			5046
Tyr Asn Phe Thr Tyr Ser Thr Asp Asn Asp Val Thr Glu Leu Ile Asp			

1575	1580	1585	
aat aat ggg aat tcc ctg aag atc cgt cgg gac agc agt ggc atg ccc			5094
Asn Asn Gly Asn Ser Leu Lys Ile Arg Arg Asp Ser Ser Gly Met Pro			
1590	1595	1600	1605
cgt cac ctg ctc atg cct gac aac cag atc atc acc ctc acc gtg ggc			5142
Arg His Leu Leu Met Pro Asp Asn Gln Ile Ile Thr Leu Thr Val Gly			
1610	1615	1620	
acc aat gga ggc ctc aaa gtc gtg tcc aca cag aac ctg gag ctt ggt			5190
Thr Asn Gly Gly Leu Lys Val Val Ser Thr Gln Asn Leu Glu Leu Gly			
1625	1630	1635	
ctc atg acc tat gat ggc aac act ggg ctc ctg gcc acc aag agc gat			5238
Leu Met Thr Tyr Asp Gly Asn Thr Gly Leu Leu Ala Thr Lys Ser Asp			
1640	1645	1650	
gaa aca gga tgg acg act ttc tat gac tat gac cac gaa ggc cgc ctg			5286
Glu Thr Gly Trp Thr Thr Phe Tyr Asp Tyr Asp His Glu Gly Arg Leu			
1655	1660	1665	
acc aac gtg acg cgc ccc acg ggg gtg gta acc agt ctg cac cgg gaa			5334
Thr Asn Val Thr Arg Pro Thr Gly Val Val Thr Ser Leu His Arg Glu			
1670	1675	1680	1685
atg gag aaa tct att acc att gac att gag aac tcc aac cgt gat gat			5382
Met Glu Lys Ser Ile Thr Ile Asp Ile Glu Asn Ser Asn Arg Asp Asp			
1690	1695	1700	
gac gtc act gtc atc acc aac ctc tct tca gta gag gcc tcc tac aca			5430
Asp Val Thr Val Ile Thr Asn Leu Ser Ser Val Glu Ala Ser Tyr Thr			
1705	1710	1715	
gtg gta caa gat caa gtt cgg aac agc tac cag ctc tgt aat aat ggt			5478
Val Val Gln Asp Gln Val Arg Asn Ser Tyr Gln Leu Cys Asn Asn Gly			
1720	1725	1730	
acc ctg agg gtg atg tat gct aat ggg atg ggt atc agc ttc cac agc			5526
Thr Leu Arg Val Met Tyr Ala Asn Gly Met Gly Ile Ser Phe His Ser			
1735	1740	1745	
gag ccc cat gtc cta gcg ggc acc atc acc ccc acc att gga cgc tgc			5574
Glu Pro His Val Leu Ala Gly Thr Ile Thr Pro Thr Ile Gly Arg Cys			
1750	1755	1760	1765
aac atc tcc ctg cct atg gag aat ggc tta aac tcc att gag tgg cgc			5622
Asn Ile Ser Leu Pro Met Glu Asn Gly Leu Asn Ser Ile Glu Trp Arg			

1770	1775	1780	
cta aga aag gaa cag att aaa ggc aaa gtc acc atc ttt ggc agg aag			5670
Leu Arg Lys Glu Gln Ile Lys Gly Lys Val Thr Ile Phe Gly Arg Lys			
1785	1790	1795	
ctc cgg gtc cat gga aga aat ctc ttg tcc att gac tat gat cga aat			5718
Leu Arg Val His Gly Arg Asn Leu Leu Ser Ile Asp Tyr Asp Arg Asn			
1800	1805	1810	
att cgg act gaa aag atc tat gat gac cac cgg aag ttc acc ctg agg			5766
Ile Arg Thr Glu Lys Ile Tyr Asp Asp His Arg Lys Phe Thr Leu Arg			
1815	1820	1825	
atc att tat gac cag gtg ggc cgc ccc ttc ctc tgg ctg ccc agc agc			5814
Ile Ile Tyr Asp Gln Val Gly Arg Pro Phe Leu Trp Leu Pro Ser Ser			
1830	1835	1840	1845
ggg ctg gca gct gtc aac gtg tca tac ttc ttc aat ggg cgc ctg gct			5862
Gly Leu Ala Ala Val Asn Val Ser Tyr Phe Phe Asn Gly Arg Leu Ala			
1850	1855	1860	
ggg ctt cag cgt ggg gcc atg agc gag agg aca gac atc gac aag caa			5910
Gly Leu Gln Arg Gly Ala Met Ser Glu Arg Thr Asp Ile Asp Lys Gln			
1865	1870	1875	
ggc cgc atc gtg tcc cgc atg ttc gct gac ggg aaa gtg tgg agc tac			5958
Gly Arg Ile Val Ser Arg Met Phe Ala Asp Gly Lys Val Trp Ser Tyr			
1880	1885	1890	
tcc tac ctt gac aag tcc atg gtc ctc ctg ctt cag agc caa cgt cag			6006
Ser Tyr Leu Asp Lys Ser Met Val Leu Leu Leu Gln Ser Gln Arg Gln			
1895	1900	1905	
tat ata ttt gag tat gac tcc tct gac cgc ctc ctt gcc gtc acc atg			6054
Tyr Ile Phe Glu Tyr Asp Ser Ser Asp Arg Leu Leu Ala Val Thr Met			
1910	1915	1920	1925
ccc agc gtg gcc cgg cac agc atg tcc aca cac acc tcc atc ggc tac			6102
Pro Ser Val Ala Arg His Ser Met Ser Thr His Thr Ser Ile Gly Tyr			
1930	1935	1940	
atc cgt aat att tac aac ccg cct gaa agc aat gct tcg gtc atc ttt			6150
Ile Arg Asn Ile Tyr Asn Pro Pro Glu Ser Asn Ala Ser Val Ile Phe			
1945	1950	1955	
gac tac agt gat gac ggc cgc atc ctg aag acc tcc ttt ttg ggc acc			6198
Asp Tyr Ser Asp Asp Gly Arg Ile Leu Lys Thr Ser Phe Leu Gly Thr			

1960	1965	1970	
gga cgc cag gtg ttc tac aag tat	ggg aaa ctc tcc aag tta tca gag		6246
Gly Arg Gln Val Phe Tyr Lys Tyr	Gly Lys Leu Ser Lys Leu Ser Glu		
1975	1980	1985	
att gtc tac gac agt acc gcc gtc acc ttc ggg tat gac gag acc act			6294
Ile Val Tyr Asp Ser Thr Ala Val Thr Phe Gly Tyr Asp Glu Thr Thr			
1990	1995	2000	2005
ggg gtc ttg aag atg gtc aac ctc caa agt ggg ggc ttc tcc tgc acc			6342
Gly Val Leu Lys Met Val Asn Leu Gln Ser Gly Gly Phe Ser Cys Thr			
2010	2015	2020	
atc agg tac cgg aag att ggc ccc ctg gtg gac aag cag atc tac agg			6390
Ile Arg Tyr Arg Lys Ile Gly Pro Leu Val Asp Lys Gln Ile Tyr Arg			
2025	2030	2035	
ttc tcc gag gaa ggc atg gtc aat gcc agg ttt gac tac acc tat cat			6438
Phe Ser Glu Glu Gly Met Val Asn Ala Arg Phe Asp Tyr Thr Tyr His			
2040	2045	2050	
gac aac agc ttc cgc atc gca agc atc aag ccc gtc ata agt gag act			6486
Asp Asn Ser Phe Arg Ile Ala Ser Ile Lys Pro Val Ile Ser Glu Thr			
2055	2060	2065	
ccc ctc ccc gtt gac ctc tac cgc tat gat gag att tct ggc aag gtg			6534
Pro Leu Pro Val Asp Leu Tyr Arg Tyr Asp Glu Ile Ser Gly Lys Val			
2070	2075	2080	2085
gaa cac ttt ggt aag ttt gga gtc atc tat tat gac atc aac cag atc			6582
Glu His Phe Gly Lys Phe Gly Val Ile Tyr Tyr Asp Ile Asn Gln Ile			
2090	2095	2100	
atc acc act gcc gtg atg acc ctc agc aaa cac ttc gac acc cat ggg			6630
Ile Thr Thr Ala Val Met Thr Leu Ser Lys His Phe Asp Thr His Gly			
2105	2110	2115	
cgg atc aag gag gtc cag tat gag atg ttc cgg tcc ctc atg tac tgg			6678
Arg Ile Lys Glu Val Gln Tyr Glu Met Phe Arg Ser Leu Met Tyr Trp			
2120	2125	2130	
atg acg gtg caa tat gac agc atg ggc agg gtg atc aag agg gag cta			6726
Met Thr Val Gln Tyr Asp Ser Met Gly Arg Val Ile Lys Arg Glu Leu			
2135	2140	2145	
aaa ctg ggg ccc tat gcc aat acc acg aag tac acc tat gac tac gat			6774
Lys Leu Gly Pro Tyr Ala Asn Thr Thr Lys Tyr Thr Tyr Asp Tyr Asp			

2150	2155	2160	2165	
ggg gac ggg cag ctc cag agc gtg gcc gtc aat gac cgc ccg acc tgg				6822
Gly Asp Gly Gln Leu Gln Ser Val Ala Val Asn Asp Arg Pro Thr Trp				
	2170	2175	2180	
cgc tac agc tat gac ctt aat ggg aat ctc cac tta ctg aac cca ggc				6870
Arg Tyr Ser Tyr Asp Leu Asn Gly Asn Leu His Leu Leu Asn Pro Gly				
	2185	2190	2195	
aac agt gtg cgc ctc atg ccc ttg cgc tat gac ctc cgg gat cgg ata				6918
Asn Ser Val Arg Leu Met Pro Leu Arg Tyr Asp Leu Arg Asp Arg Ile				
	2200	2205	2210	
acc aga ctc ggg gat gtg cag tac aaa att gac gac gat ggc tat ctg				6966
Thr Arg Leu Gly Asp Val Gln Tyr Lys Ile Asp Asp Asp Gly Tyr Leu				
	2215	2220	2225	
tgc cag aga ggg tct gac atc ttc gaa tac aat tcc aag ggc ctc cta				7014
Cys Gln Arg Gly Ser Asp Ile Phe Glu Tyr Asn Ser Lys Gly Leu Leu				
	2230	2235	2240	2245
aca aga gcc tac aac aag gcc agc ggg tgg agt gtc cag tac cgc tat				7062
Thr Arg Ala Tyr Asn Lys Ala Ser Gly Trp Ser Val Gln Tyr Arg Tyr				
	2250	2255	2260	
gat ggc gta gga cgg cgg gct tcc tac aag acc aac ctg ggc cac cac				7110
Asp Gly Val Gly Arg Arg Ala Ser Tyr Lys Thr Asn Leu Gly His His				
	2265	2270	2275	
ctg cag tac ttc tac tct gac ctc cac aac ccg acg cgc atc acc cat				7158
Leu Gln Tyr Phe Tyr Ser Asp Leu His Asn Pro Thr Arg Ile Thr His				
	2280	2285	2290	
gtc tac aat cac tcc aac tcg gag att acc tca ctg tac tac gac ctc				7206
Val Tyr Asn His Ser Asn Ser Glu Ile Thr Ser Leu Tyr Tyr Asp Leu				
	2295	2300	2305	
cag ggc cac ctc ttt gcc atg gag agc agc agt ggg gag gag tac tat				7254
Gln Gly His Leu Phe Ala Met Glu Ser Ser Ser Gly Glu Glu Tyr Tyr				
	2310	2315	2320	2325
gtt gcc tct gat aac aca ggg act cct ctg gct gtg ttc agc atc aac				7302
Val Ala Ser Asp Asn Thr Gly Thr Pro Leu Ala Val Phe Ser Ile Asn				
	2330	2335	2340	
ggc ctc atg atc aaa cag ctg cag tac acg gcc tat ggg gag att tat				7350
Gly Leu Met Ile Lys Gln Leu Gln Tyr Thr Ala Tyr Gly Glu Ile Tyr				

2345	2350	2355	
tat gac tcc aac ccc gac ttc cag atg gtc att ggc ttc cat ggg gga			7398
Tyr Asp Ser Asn Pro Asp Phe Gln Met Val Ile Gly Phe His Gly Gly			
2360	2365	2370	
ctc tat gac ccc ctg acc aag ctg gtc cac ttc act cag cgt gat tat			7446
Leu Tyr Asp Pro Leu Thr Lys Leu Val His Phe Thr Gln Arg Asp Tyr			
2375	2380	2385	
gat gtg ctg gca gga cga tgg acc tcc cca gac tat acc atg tgg aaa			7494
Asp Val Leu Ala Gly Arg Trp Thr Ser Pro Asp Tyr Thr Met Trp Lys			
2390	2395	2400	2405
aac gtg ggc aag gag ccg gcc ccc ttt aac ctg tat atg ttc aag agc			7542
Asn Val Gly Lys Glu Pro Ala Pro Phe Asn Leu Tyr Met Phe Lys Ser			
2410	2415	2420	
aac aat cct ctc agc agt gag cta gat ttg aag aac tac gtg aca gat			7590
Asn Asn Pro Leu Ser Ser Glu Leu Asp Leu Lys Asn Tyr Val Thr Asp			
2425	2430	2435	
gtg aaa agc tgg ctt gtg atg ttt gga ttt cag ctt agc aac atc att			7638
Val Lys Ser Trp Leu Val Met Phe Gly Phe Gln Leu Ser Asn Ile Ile			
2440	2445	2450	
cct ggc ttc ccg aga gcc aaa atg tat ttc gtg cct cct ccc tat gaa			7686
Pro Gly Phe Pro Arg Ala Lys Met Tyr Phe Val Pro Pro Pro Tyr Glu			
2455	2460	2465	
ttg tca gag agt caa gca agt gag aat gga cag ctc att aca ggt gtc			7734
Leu Ser Glu Ser Gln Ala Ser Glu Asn Gly Gln Leu Ile Thr Gly Val			
2470	2475	2480	2485
caa cag aca aca gag aga cat aac cag gcc ttc atg gct ctg gaa gga			7782
Gln Gln Thr Thr Glu Arg His Asn Gln Ala Phe Met Ala Leu Glu Gly			
2490	2495	2500	
cag gtc att act aaa aag ctc cac gcc agc atc cga gag aaa gca ggt			7830
Gln Val Ile Thr Lys Lys Leu His Ala Ser Ile Arg Glu Lys Ala Gly			
2505	2510	2515	
cac tgg ttt gcc acc acc acg ccc atc att ggc aaa ggc atc atg ttt			7878
His Trp Phe Ala Thr Thr Thr Pro Ile Ile Gly Lys Gly Ile Met Phe			
2520	2525	2530	
gcc atc aaa gaa ggg cgg gtg acc acg ggc gtg tcc agc atc gcc agc			7926
Ala Ile Lys Glu Gly Arg Val Thr Thr Gly Val Ser Ser Ile Ala Ser			

2535	2540	2545	
gaa gat agc cgc aag gtg gca tct gtg ctg aac aac gcc tac tac ctg			7974
Glu Asp Ser Arg Lys Val Ala Ser Val Leu Asn Asn Ala Tyr Tyr Leu			
2550	2555	2560	2565
gac aag atg cac tac agc atc gag ggc aag gac acc cac tac ttt gtg			8022
Asp Lys Met His Tyr Ser Ile Glu Gly Lys Asp Thr His Tyr Phe Val			
	2570	2575	2580
aag att ggc tca gcc gat ggc gac ctg gtc aca cta ggc acc acc atc			8070
Lys Ile Gly Ser Ala Asp Gly Asp Leu Val Thr Leu Gly Thr Thr Ile			
	2585	2590	2595
ggc cgc aag gtg cta gag agc ggg gtg aac gtg acc gtg tcc cag ccc			8118
Gly Arg Lys Val Leu Glu Ser Gly Val Asn Val Thr Val Ser Gln Pro			
	2600	2605	2610
acg ctg ctg gtc aac ggc agg act cga agg ttc acg aac att gag ttc			8166
Thr Leu Leu Val Asn Gly Arg Thr Arg Arg Phe Thr Asn Ile Glu Phe			
	2615	2620	2625
cag tac tcc acg ctg ctg ctc agc atc cgc tat ggc ctc acc ccc gac			8214
Gln Tyr Ser Thr Leu Leu Leu Ser Ile Arg Tyr Gly Leu Thr Pro Asp			
	2630	2635	2640
acc ctg gac gaa gag aag gcc cgc gtc ctg gac cag gcg aga cag agg			8262
Thr Leu Asp Glu Glu Lys Ala Arg Val Leu Asp Gln Ala Arg Gln Arg			
	2650	2655	2660
gcc ctg ggc acg gcc tgg gcc aag gag cag cag aaa gcc agg gac ggg			8310
Ala Leu Gly Thr Ala Trp Ala Lys Glu Gln Gln Lys Ala Arg Asp Gly			
	2665	2670	2675
aga gag ggg agc cgc ctg tgg act gag ggc gag aag cag cag ctt ctg			8358
Arg Glu Gly Ser Arg Leu Trp Thr Glu Gly Glu Lys Gln Gln Leu Leu			
	2680	2685	2690
agc acc ggg cgc gtg caa ggg tac gag gga tat tac gtg ctt ccc gtg			8406
Ser Thr Gly Arg Val Gln Gly Tyr Glu Gly Tyr Tyr Val Leu Pro Val			
	2695	2700	2705
gag caa tac cca gag ctt gca gac agt agc agc aac atc cag ttt tta			8454
Glu Gln Tyr Pro Glu Leu Ala Asp Ser Ser Ser Asn Ile Gln Phe Leu			
	2710	2715	2720
aga cag aat gag atg gga aag agg taacaaaata atctgctgcc attccttgctc			8508
Arg Gln Asn Glu Met Gly Lys Arg			

tgaatggctc agcaggagta actgttatct cctctcctaa ggagatgaag acctaacagg 8568  
 ggactgcgg ctgggctgct ttaggagacc aagtggcaag aaagctcaca ttttttgagt 8628  
 tcaaatgcta ctgtccaagc gagaagtccc tcctcctgaa gtagactaaa gcccggtga 8688  
 aaattccgag gaaaacaaaa caaacgaatg aatgaacaga cacacacaat gttccaagtt 8748  
 cccctaaaat atgaccact tgttctgggt ctacgcagaa aagagacgca aagtgtccaa 8808  
 aaggaacaaa agaacaaaaa cgaataagca aagaagaaaa caaacaaaaa caaaacaaaa 8868  
 caaacacacg gaccgataaa caaagaagcg aagataagaa agaaggcctc atatccaatt 8928  
 acctcactca ttcacatgtg agcgacacgc agacatccgc gagggccagc gtcaccagac 8988  
 cagctgcggg acaaaccact cagactgctt gtaggacaaa tacttctgac attttcgttt 9048  
 aagcaaatac aggtgcattt aaaacacgac tttgggggtg atttggtgtg agcgcttggg 9108  
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 ctctcaggtc ccaactaagt ctggcctgag ctaatttatt tgagcgcaga gtgtaaaatt 9288  
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 attccattgt ggacagtaat acgcagttac aggtgttagt ctgttttagat tccgtagttc 9408  
 gtgggtatca gtttcggtag aggtgcagca tcgtgacact tttgctaaca ggtaccactt 9468  
 ctgatcacc tgtacatata tgagccgaaa ggcacaatca ctgtttcaga tttaaaatta 9528  
 ttagtgtggt tgtttggtcc agaaactgag acaatcacat gacagtcacc acgaggagag 9588  
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<211> 2733

<212> PRT

<213> Homo sapiens

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Gly Lys Glu Cys Arg Tyr Thr Ser Ser Ser Leu Asp Ser Glu Asp Cys  
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Arg Val Pro Thr Gln Lys Ser Tyr Ser Ser Ser Glu Thr Leu Lys Ala  
35 40 45

Tyr Asp His Asp Ser Arg Met His Tyr Gly Asn Arg Val Thr Asp Leu  
50 55 60

Ile His Arg Glu Ser Asp Glu Phe Pro Arg Gln Gly Thr Asn Phe Thr  
65 70 75 80

Leu Ala Glu Leu Gly Ile Cys Glu Pro Ser Pro His Arg Ser Gly Tyr  
85 90 95

Cys Ser Asp Met Gly Ile Leu His Gln Gly Tyr Ser Leu Ser Thr Gly  
100 105 110

Ser Asp Ala Asp Ser Asp Thr Glu Gly Gly Met Ser Pro Glu His Ala  
115 120 125

Ile Arg Leu Trp Gly Arg Gly Ile Lys Ser Arg Arg Ser Ser Gly Leu  
130 135 140

Ser Ser Arg Glu Asn Ser Ala Leu Thr Leu Thr Asp Ser Asp Asn Glu  
145 150 155 160

Asn Lys Ser Asp Asp Glu Asn Gly Arg Pro Ile Pro Pro Thr Ser Ser  
165 170 175

Pro Ser Leu Leu Pro Ser Ala Gln Leu Pro Ser Ser His Asn Pro Pro  
180 185 190

Pro Val Ser Cys Gln Met Pro Leu Leu Asp Ser Asn Thr Ser His Gln  
195 200 205

Ile Met Asp Thr Asn Pro Asp Glu Glu Phe Ser Pro Asn Ser Tyr Leu  
210 215 220

Leu Arg Ala Cys Ser Gly Pro Gln Gln Ala Ser Ser Ser Gly Pro Pro

225		230		235		240
Asn His His Ser Gln Ser Thr Leu Arg Pro Pro Leu Pro Pro Pro His						
	245			250		255
Asn His Thr Leu Ser His His His Ser Ser Ala Asn Ser Leu Asn Arg						
	260			265		270
Asn Ser Leu Thr Asn Arg Arg Ser Gln Ile His Ala Pro Ala Pro Ala						
	275			280		285
Pro Asn Asp Leu Ala Thr Thr Pro Glu Ser Val Gln Leu Gln Asp Ser						
	290			295		300
Trp Val Leu Asn Ser Asn Val Pro Leu Glu Thr Arg His Phe Leu Phe						
305		310		315		320
Lys Thr Ser Ser Gly Ser Thr Pro Leu Phe Ser Ser Ser Ser Pro Gly						
	325			330		335
Tyr Pro Leu Thr Ser Gly Thr Val Tyr Thr Pro Pro Pro Arg Leu Leu						
	340			345		350
Pro Arg Asn Thr Phe Ser Arg Lys Ala Phe Lys Leu Lys Lys Pro Ser						
	355			360		365
Lys Tyr Cys Ser Trp Lys Cys Ala Ala Leu Ser Ala Ile Ala Ala Ala						
	370			375		380
Leu Leu Leu Ala Ile Leu Leu Ala Tyr Phe Ile Val Pro Trp Ser Leu						
385		390		395		400
Lys Asn Ser Ser Ile Asp Ser Gly Glu Ala Glu Val Gly Arg Arg Val						
	405			410		415
Thr Gln Glu Val Pro Pro Gly Val Phe Trp Arg Ser Gln Ile His Ile						
	420			425		430
Ser Gln Pro Gln Phe Leu Lys Phe Asn Ile Ser Leu Gly Lys Asp Ala						
	435			440		445
Leu Phe Gly Val Tyr Ile Arg Arg Gly Leu Pro Pro Ser His Ala Gln						
	450			455		460
Tyr Asp Phe Met Glu Arg Leu Asp Gly Lys Glu Lys Trp Ser Val Val						
465		470		475		480
Glu Ser Pro Arg Glu Arg Arg Ser Ile Gln Thr Leu Val Gln Asn Glu						

485	490	495
Ala Val Phe Val Gln Tyr Leu Asp Val Gly Leu Trp His Leu Ala Phe		
500	505	510
Tyr Asn Asp Gly Lys Asp Lys Glu Met Val Ser Phe Asn Thr Val Val		
515	520	525
Leu Asp Ser Val Gln Asp Cys Pro Arg Asn Cys His Gly Asn Gly Glu		
530	535	540
Cys Val Ser Gly Val Cys His Cys Phe Pro Gly Phe Leu Gly Ala Asp		
545	550	555
		560
Cys Ala Lys Ala Ala Cys Pro Val Leu Cys Ser Gly Asn Gly Gln Tyr		
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Ser Lys Gly Thr Cys Gln Cys Tyr Ser Gly Trp Lys Gly Ala Glu Cys		
580	585	590
Asp Val Pro Met Asn Gln Cys Ile Asp Pro Ser Cys Gly Gly His Gly		
595	600	605
Ser Cys Ile Asp Gly Asn Cys Val Cys Ser Ala Gly Tyr Lys Gly Glu		
610	615	620
His Cys Glu Glu Val Asp Cys Leu Asp Pro Thr Cys Ser Ser His Gly		
625	630	635
		640
Val Cys Val Asn Gly Glu Cys Leu Cys Ser Pro Gly Trp Gly Gly Leu		
645	650	655
Asn Cys Glu Leu Ala Arg Val Gln Cys Pro Asp Gln Cys Ser Gly His		
660	665	670
Gly Thr Tyr Leu Pro Asp Thr Gly Leu Cys Ser Cys Asp Pro Asn Trp		
675	680	685
Met Gly Pro Asp Cys Ser Val Glu Val Cys Ser Val Asp Cys Gly Thr		
690	695	700
His Gly Val Cys Ile Gly Gly Ala Cys Arg Cys Glu Glu Gly Trp Thr		
705	710	715
		720
Gly Ala Ala Cys Asp Gln Arg Val Cys His Pro Arg Cys Ile Glu His		
725	730	735
Gly Thr Cys Lys Asp Gly Lys Cys Glu Cys Arg Glu Gly Trp Asn Gly		

740	745	750
Glu His Cys Thr Ile Gly Arg Gln Thr Ala Gly Thr Glu Thr Asp Gly		
755	760	765
Cys Pro Asp Leu Cys Asn Gly Asn Gly Arg Cys Thr Leu Gly Gln Asn		
770	775	780
Ser Trp Gln Cys Val Cys Gln Thr Gly Trp Arg Gly Pro Gly Cys Asn		
785	790	795
Val Ala Met Glu Thr Ser Cys Ala Asp Asn Lys Asp Asn Glu Gly Asp		
805	810	815
Gly Leu Val Asp Cys Leu Asp Pro Asp Cys Cys Leu Gln Ser Ala Cys		
820	825	830
Gln Asn Ser Leu Leu Cys Arg Gly Ser Arg Asp Pro Leu Asp Ile Ile		
835	840	845
Gln Gln Gly Gln Thr Asp Trp Pro Ala Val Lys Ser Phe Tyr Asp Arg		
850	855	860
Ile Lys Leu Leu Ala Gly Lys Asp Ser Thr His Ile Ile Pro Gly Glu		
865	870	875
Asn Pro Phe Asn Ser Ser Leu Val Ser Leu Ile Arg Gly Gln Val Val		
885	890	895
Thr Thr Asp Gly Thr Pro Leu Val Gly Val Asn Val Ser Phe Val Lys		
900	905	910
Tyr Pro Lys Tyr Gly Tyr Thr Ile Thr Arg Gln Asp Gly Thr Phe Asp		
915	920	925
Leu Ile Ala Asn Gly Gly Ala Ser Leu Thr Leu His Phe Glu Arg Ala		
930	935	940
Pro Phe Met Ser Gln Glu Arg Thr Val Trp Leu Pro Trp Asn Ser Phe		
945	950	955
Tyr Ala Met Asp Thr Leu Val Met Lys Thr Glu Glu Asn Ser Ile Pro		
965	970	975
Ser Cys Asp Leu Ser Gly Phe Val Arg Pro Asp Pro Ile Ile Ile Ser		
980	985	990
Ser Pro Leu Ser Thr Phe Phe Ser Ala Ala Pro Gly Gln Asn Pro Ile		

995	1000	1005
Val Pro Glu Thr Gln Val Leu His Glu Glu Ile Glu Leu Pro Gly Ser		
1010	1015	1020
Asn Val Lys Leu Arg Tyr Leu Ser Ser Arg Thr Ala Gly Tyr Lys Ser		
1025	1030	1035 1040
Leu Leu Lys Ile Thr Met Thr Gln Ser Thr Val Pro Leu Asn Leu Ile		
	1045	1050 1055
Arg Val His Leu Met Val Ala Val Glu Gly His Leu Phe Gln Lys Ser		
	1060	1065 1070
Phe Gln Ala Ser Pro Asn Leu Ala Ser Thr Phe Ile Trp Asp Lys Thr		
	1075	1080 1085
Asp Ala Tyr Gly Gln Arg Val Tyr Gly Leu Ser Asp Ala Val Val Ser		
	1090	1095 1100
Val Gly Phe Glu Tyr Glu Thr Cys Pro Ser Leu Ile Leu Trp Glu Lys		
	1105	1110 1115 1120
Arg Thr Ala Leu Leu Gln Gly Phe Glu Leu Asp Pro Ser Asn Leu Gly		
	1125	1130 1135
Gly Trp Ser Leu Asp Lys His His Ile Leu Asn Val Lys Ser Gly Ile		
	1140	1145 1150
Leu His Lys Gly Thr Gly Glu Asn Gln Phe Leu Thr Gln Gln Pro Ala		
	1155	1160 1165
Ile Ile Thr Ser Ile Met Gly Asn Gly Arg Arg Arg Ser Ile Ser Cys		
	1170	1175 1180
Pro Ser Cys Asn Gly Leu Ala Glu Gly Asn Lys Leu Leu Ala Pro Val		
	1185	1190 1195 1200
Ala Leu Ala Val Gly Ile Asp Gly Ser Leu Tyr Val Gly Asp Phe Asn		
	1205	1210 1215
Tyr Ile Arg Arg Ile Phe Pro Ser Arg Asn Val Thr Ser Ile Leu Glu		
	1220	1225 1230
Leu Arg Asn Lys Glu Phe Lys His Ser Asn Asn Pro Ala His Lys Tyr		
	1235	1240 1245
Tyr Leu Ala Val Asp Pro Val Ser Gly Ser Leu Tyr Val Ser Asp Thr		

1250	1255	1260
Asn Ser Arg Arg Ile Tyr Arg Val Lys Ser Leu Ser Gly Thr Lys Asp		
1265	1270	1275 1280
Leu Ala Gly Asn Ser Glu Val Val Ala Gly Thr Gly Glu Gln Cys Leu		
1285	1290	1295
Pro Phe Asp Glu Ala Arg Cys Gly Asp Gly Gly Lys Ala Ile Asp Ala		
1300	1305	1310
Thr Leu Met Ser Pro Arg Gly Ile Ala Val Asp Lys Asn Gly Leu Met		
1315	1320	1325
Tyr Phe Val Asp Ala Thr Met Ile Arg Lys Val Asp Gln Asn Gly Ile		
1330	1335	1340
Ile Ser Thr Leu Leu Gly Ser Asn Asp Leu Thr Ala Val Arg Pro Leu		
1345	1350	1355 1360
Ser Cys Asp Ser Ser Met Asp Val Ala Gln Val Arg Leu Glu Trp Pro		
1365	1370	1375
Thr Asp Leu Ala Val Asn Pro Met Asp Asn Ser Leu Tyr Val Leu Glu		
1380	1385	1390
Asn Asn Val Ile Leu Arg Ile Thr Glu Asn His Gln Val Ser Ile Ile		
1395	1400	1405
Ala Gly Arg Pro Met His Cys Gln Val Pro Gly Ile Asp Tyr Ser Leu		
1410	1415	1420
Ser Lys Leu Ala Ile His Ser Ala Leu Glu Ser Ala Ser Ala Ile Ala		
1425	1430	1435 1440
Ile Ser His Thr Gly Val Leu Tyr Ile Thr Glu Thr Asp Glu Lys Lys		
1445	1450	1455
Ile Asn Arg Leu Arg Gln Val Thr Thr Asn Gly Glu Ile Cys Leu Leu		
1460	1465	1470
Ala Gly Ala Ala Ser Asp Cys Asp Cys Lys Asn Asp Val Asn Cys Asn		
1475	1480	1485
Cys Tyr Ser Gly Asp Asp Ala Tyr Ala Thr Asp Ala Ile Leu Asn Ser		
1490	1495	1500
Pro Ser Ser Leu Ala Val Ala Pro Asp Gly Thr Ile Tyr Ile Ala Asp		

1505	1510	1515	1520
Leu Gly Asn Ile Arg	Ile Arg Ala Val Ser Lys Asn Lys Pro Val Leu		
1525	1530	1535	
Asn Ala Phe Asn Gln Tyr Glu Ala Ala Ser Pro Gly Glu Gln Glu Leu			
1540	1545	1550	
Tyr Val Phe Asn Ala Asp Gly Ile His Gln Tyr Thr Val Ser Leu Val			
1555	1560	1565	
Thr Gly Glu Tyr Leu Tyr Asn Phe Thr Tyr Ser Thr Asp Asn Asp Val			
1570	1575	1580	
Thr Glu Leu Ile Asp Asn Asn Gly Asn Ser Leu Lys Ile Arg Arg Asp			
1585	1590	1595	1600
Ser Ser Gly Met Pro Arg His Leu Leu Met Pro Asp Asn Gln Ile Ile			
1605	1610	1615	
Thr Leu Thr Val Gly Thr Asn Gly Gly Leu Lys Val Val Ser Thr Gln			
1620	1625	1630	
Asn Leu Glu Leu Gly Leu Met Thr Tyr Asp Gly Asn Thr Gly Leu Leu			
1635	1640	1645	
Ala Thr Lys Ser Asp Glu Thr Gly Trp Thr Thr Phe Tyr Asp Tyr Asp			
1650	1655	1660	
His Glu Gly Arg Leu Thr Asn Val Thr Arg Pro Thr Gly Val Val Thr			
1665	1670	1675	1680
Ser Leu His Arg Glu Met Glu Lys Ser Ile Thr Ile Asp Ile Glu Asn			
1685	1690	1695	
Ser Asn Arg Asp Asp Asp Val Thr Val Ile Thr Asn Leu Ser Ser Val			
1700	1705	1710	
Glu Ala Ser Tyr Thr Val Val Gln Asp Gln Val Arg Asn Ser Tyr Gln			
1715	1720	1725	
Leu Cys Asn Asn Gly Thr Leu Arg Val Met Tyr Ala Asn Gly Met Gly			
1730	1735	1740	
Ile Ser Phe His Ser Glu Pro His Val Leu Ala Gly Thr Ile Thr Pro			
1745	1750	1755	1760
Thr Ile Gly Arg Cys Asn Ile Ser Leu Pro Met Glu Asn Gly Leu Asn			

1765	1770	1775
Ser Ile Glu Trp Arg Leu Arg Lys Glu Gln Ile Lys Gly Lys Val Thr		
1780	1785	1790
Ile Phe Gly Arg Lys Leu Arg Val His Gly Arg Asn Leu Leu Ser Ile		
1795	1800	1805
Asp Tyr Asp Arg Asn Ile Arg Thr Glu Lys Ile Tyr Asp Asp His Arg		
1810	1815	1820
Lys Phe Thr Leu Arg Ile Ile Tyr Asp Gln Val Gly Arg Pro Phe Leu		
1825	1830	1835
Trp Leu Pro Ser Ser Gly Leu Ala Ala Val Asn Val Ser Tyr Phe Phe		
1845	1850	1855
Asn Gly Arg Leu Ala Gly Leu Gln Arg Gly Ala Met Ser Glu Arg Thr		
1860	1865	1870
Asp Ile Asp Lys Gln Gly Arg Ile Val Ser Arg Met Phe Ala Asp Gly		
1875	1880	1885
Lys Val Trp Ser Tyr Ser Tyr Leu Asp Lys Ser Met Val Leu Leu Leu		
1890	1895	1900
Gln Ser Gln Arg Gln Tyr Ile Phe Glu Tyr Asp Ser Ser Asp Arg Leu		
1905	1910	1915
Leu Ala Val Thr Met Pro Ser Val Ala Arg His Ser Met Ser Thr His		
1925	1930	1935
Thr Ser Ile Gly Tyr Ile Arg Asn Ile Tyr Asn Pro Pro Glu Ser Asn		
1940	1945	1950
Ala Ser Val Ile Phe Asp Tyr Ser Asp Asp Gly Arg Ile Leu Lys Thr		
1955	1960	1965
Ser Phe Leu Gly Thr Gly Arg Gln Val Phe Tyr Lys Tyr Gly Lys Leu		
1970	1975	1980
Ser Lys Leu Ser Glu Ile Val Tyr Asp Ser Thr Ala Val Thr Phe Gly		
1985	1990	1995
Tyr Asp Glu Thr Thr Gly Val Leu Lys Met Val Asn Leu Gln Ser Gly		
2005	2010	2015
Gly Phe Ser Cys Thr Ile Arg Tyr Arg Lys Ile Gly Pro Leu Val Asp		



2020	2025	2030
Lys Gln Ile Tyr Arg Phe Ser Glu Glu Gly Met Val Asn Ala Arg Phe 2035	2040	2045
Asp Tyr Thr Tyr His Asp Asn Ser Phe Arg Ile Ala Ser Ile Lys Pro 2050	2055	2060
Val Ile Ser Glu Thr Pro Leu Pro Val Asp Leu Tyr Arg Tyr Asp Glu 2065	2070	2075 2080
Ile Ser Gly Lys Val Glu His Phe Gly Lys Phe Gly Val Ile Tyr Tyr 2085	2090	2095
Asp Ile Asn Gln Ile Ile Thr Thr Ala Val Met Thr Leu Ser Lys His 2100	2105	2110
Phe Asp Thr His Gly Arg Ile Lys Glu Val Gln Tyr Glu Met Phe Arg 2115	2120	2125
Ser Leu Met Tyr Trp Met Thr Val Gln Tyr Asp Ser Met Gly Arg Val 2130	2135	2140
Ile Lys Arg Glu Leu Lys Leu Gly Pro Tyr Ala Asn Thr Thr Lys Tyr 2145	2150	2155 2160
Thr Tyr Asp Tyr Asp Gly Asp Gly Gln Leu Gln Ser Val Ala Val Asn 2165	2170	2175
Asp Arg Pro Thr Trp Arg Tyr Ser Tyr Asp Leu Asn Gly Asn Leu His 2180	2185	2190
Leu Leu Asn Pro Gly Asn Ser Val Arg Leu Met Pro Leu Arg Tyr Asp 2195	2200	2205
Leu Arg Asp Arg Ile Thr Arg Leu Gly Asp Val Gln Tyr Lys Ile Asp 2210	2215	2220
Asp Asp Gly Tyr Leu Cys Gln Arg Gly Ser Asp Ile Phe Glu Tyr Asn 2225	2230	2235 2240
Ser Lys Gly Leu Leu Thr Arg Ala Tyr Asn Lys Ala Ser Gly Trp Ser 2245	2250	2255
Val Gln Tyr Arg Tyr Asp Gly Val Gly Arg Arg Ala Ser Tyr Lys Thr 2260	2265	2270
Asn Leu Gly His His Leu Gln Tyr Phe Tyr Ser Asp Leu His Asn Pro		

2275	2280	2285
Thr Arg Ile Thr His Val Tyr Asn His Ser Asn Ser Glu Ile Thr Ser		
2290	2295	2300
Leu Tyr Tyr Asp Leu Gln Gly His Leu Phe Ala Met Glu Ser Ser Ser		
2305	2310	2315 2320
Gly Glu Glu Tyr Tyr Val Ala Ser Asp Asn Thr Gly Thr Pro Leu Ala		
2325	2330	2335
Val Phe Ser Ile Asn Gly Leu Met Ile Lys Gln Leu Gln Tyr Thr Ala		
2340	2345	2350
Tyr Gly Glu Ile Tyr Tyr Asp Ser Asn Pro Asp Phe Gln Met Val Ile		
2355	2360	2365
Gly Phe His Gly Gly Leu Tyr Asp Pro Leu Thr Lys Leu Val His Phe		
2370	2375	2380
Thr Gln Arg Asp Tyr Asp Val Leu Ala Gly Arg Trp Thr Ser Pro Asp		
2385	2390	2395 2400
Tyr Thr Met Trp Lys Asn Val Gly Lys Glu Pro Ala Pro Phe Asn Leu		
2405	2410	2415
Tyr Met Phe Lys Ser Asn Asn Pro Leu Ser Ser Glu Leu Asp Leu Lys		
2420	2425	2430
Asn Tyr Val Thr Asp Val Lys Ser Trp Leu Val Met Phe Gly Phe Gln		
2435	2440	2445
Leu Ser Asn Ile Ile Pro Gly Phe Pro Arg Ala Lys Met Tyr Phe Val		
2450	2455	2460
Pro Pro Pro Tyr Glu Leu Ser Glu Ser Gln Ala Ser Glu Asn Gly Gln		
2465	2470	2475 2480
Leu Ile Thr Gly Val Gln Gln Thr Thr Glu Arg His Asn Gln Ala Phe		
2485	2490	2495
Met Ala Leu Glu Gly Gln Val Ile Thr Lys Lys Leu His Ala Ser Ile		
2500	2505	2510
Arg Glu Lys Ala Gly His Trp Phe Ala Thr Thr Thr Pro Ile Ile Gly		
2515	2520	2525
Lys Gly Ile Met Phe Ala Ile Lys Glu Gly Arg Val Thr Thr Gly Val		

2530	2535	2540	
Ser Ser Ile Ala Ser Glu Asp Ser Arg Lys Val Ala Ser Val Leu Asn			
2545	2550	2555	2560
Asn Ala Tyr Tyr Leu Asp Lys Met His Tyr Ser Ile Glu Gly Lys Asp			
2565	2570	2575	
Thr His Tyr Phe Val Lys Ile Gly Ser Ala Asp Gly Asp Leu Val Thr			
2580	2585	2590	
Leu Gly Thr Thr Ile Gly Arg Lys Val Leu Glu Ser Gly Val Asn Val			
2595	2600	2605	
Thr Val Ser Gln Pro Thr Leu Leu Val Asn Gly Arg Thr Arg Arg Phe			
2610	2615	2620	
Thr Asn Ile Glu Phe Gln Tyr Ser Thr Leu Leu Leu Ser Ile Arg Tyr			
2625	2630	2635	2640
Gly Leu Thr Pro Asp Thr Leu Asp Glu Glu Lys Ala Arg Val Leu Asp			
2645	2650	2655	
Gln Ala Arg Gln Arg Ala Leu Gly Thr Ala Trp Ala Lys Glu Gln Gln			
2660	2665	2670	
Lys Ala Arg Asp Gly Arg Glu Gly Ser Arg Leu Trp Thr Glu Gly Glu			
2675	2680	2685	
Lys Gln Gln Leu Leu Ser Thr Gly Arg Val Gln Gly Tyr Glu Gly Tyr			
2690	2695	2700	
Tyr Val Leu Pro Val Glu Gln Tyr Pro Glu Leu Ala Asp Ser Ser Ser			
2705	2710	2715	2720
Asn Ile Gln Phe Leu Arg Gln Asn Glu Met Gly Lys Arg			
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<211> 201

<212> DNA

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 aacatcagca ttctgccata tctggaata atg gat gta aag gac cgg cga cac 233  
 Met Asp Val Lys Asp Arg Arg His  
 1 5  
 cgc tct ttg acc aga gga cgc tgt ggc aaa gag tgt cgc tac aca agc 281

Arg	Ser	Leu	Thr	Arg	Gly	Arg	Cys	Gly	Lys	Glu	Cys	Arg	Tyr	Thr	Ser		
10						15					20						
tcc	tct	ctg	gac	agt	gag	gac	tgc	cgg	gtg	ccc	aca	cag	aaa	tcc	tac	329	
Ser	Ser	Leu	Asp	Ser	Glu	Asp	Cys	Arg	Val	Pro	Thr	Gln	Lys	Ser	Tyr		
25					30					35				40			
agc	tcc	agt	gag	act	ctg	aag	gcc	tat	gac	cat	gac	agc	agg	atg	cac	377	
Ser	Ser	Ser	Glu	Thr	Leu	Lys	Ala	Tyr	Asp	His	Asp	Ser	Arg	Met	His		
				45					50					55			
tat	gga	aac	cga	gtc	aca	gac	ctc	atc	cac	cgg	gag	tca	gat	gag	ttt	425	
Tyr	Gly	Asn	Arg	Val	Thr	Asp	Leu	Ile	His	Arg	Glu	Ser	Asp	Glu	Phe		
			60					65					70				
cct	aga	caa	gga	acc	aac	ttc	acc	ctt	gcc	gaa	ctg	ggc	atc	tgt	gag	473	
Pro	Arg	Gln	Gly	Thr	Asn	Phe	Thr	Leu	Ala	Glu	Leu	Gly	Ile	Cys	Glu		
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ccc	tcc	cca	cac	cga	agc	ggc	tac	tgc	tcc	gac	atg	ggg	atc	ctt	cac	521	
Pro	Ser	Pro	His	Arg	Ser	Gly	Tyr	Cys	Ser	Asp	Met	Gly	Ile	Leu	His		
	90					95					100						
cag	ggc	tac	tcc	ctt	agc	aca	ggg	tct	gac	gcc	gac	tcc	gac	acc	gag	569	
Gln	Gly	Tyr	Ser	Leu	Ser	Thr	Gly	Ser	Asp	Ala	Asp	Ser	Asp	Thr	Glu		
105					110					115					120		
gga	ggg	atg	tct	cca	gaa	cac	gcc	atc	aga	ctg	tgg	ggc	aga	ggg	ata	617	
Gly	Gly	Met	Ser	Pro	Glu	His	Ala	Ile	Arg	Leu	Trp	Gly	Arg	Gly	Ile		
				125					130					135			
aaa	tcc	agg	cgc	agt	tcc	ggc	ctg	tcc	agt	cgt	gaa	aac	tcg	gcc	ctt	665	
Lys	Ser	Arg	Arg	Ser	Ser	Gly	Leu	Ser	Ser	Arg	Glu	Asn	Ser	Ala	Leu		
			140						145				150				
acc	ctg	act	gac	tct	gac	aac	gaa	aac	aaa	tca	gat	gat	gag	aac	ggc	713	
Thr	Leu	Thr	Asp	Ser	Asp	Asn	Glu	Asn	Lys	Ser	Asp	Asp	Glu	Asn	Gly		
			155				160						165				
cgt	ccc	att	cca	cct	aca	tcc	tcg	cct	agt	ctc	ctc	cca	tct	gct	cag	761	
Arg	Pro	Ile	Pro	Pro	Thr	Ser	Ser	Pro	Ser	Leu	Leu	Pro	Ser	Ala	Gln		
	170					175						180					
ctg	cct	agc	tcc	cat	aat	cct	cca	cca	gtt	agc	tgc	cag	atg	cca	ttg	809	
Leu	Pro	Ser	Ser	His	Asn	Pro	Pro	Pro	Val	Ser	Cys	Gln	Met	Pro	Leu		
185					190					195				200			
cta	gac	agc	aac	acc	tcc	cat	caa	atc	atg	gac	acc	aac	cct	gat	gag	857	

Leu Asp Ser Asn Thr Ser His Gln Ile Met Asp Thr Asn Pro Asp Glu	
205 210 215	
gaa ttc tcc ccc aat tca tac ctg ctc aga gca tgc tca ggg ccc cag	905
Glu Phe Ser Pro Asn Ser Tyr Leu Leu Arg Ala Cys Ser Gly Pro Gln	
220 225 230	
caa gcc tcc agc agt ggc cct ccg aac cac cac agc cag tcg act ctg	953
Gln Ala Ser Ser Ser Gly Pro Pro Asn His His Ser Gln Ser Thr Leu	
235 240 245	
agg ccc cct ctc cca ccc cct cac aac cac acg ctg tcc cat cac cac	1001
Arg Pro Pro Leu Pro Pro Pro His Asn His Thr Leu Ser His His His	
250 255 260	
tcg tcc gcc aac tcc ctc aac agg aac tca ctg acc aat cgg cgg agt	1049
Ser Ser Ala Asn Ser Leu Asn Arg Asn Ser Leu Thr Asn Arg Arg Ser	
265 270 275 280	
cag atc cac gcc ccg gcc cca gcg ccc aat gac ctg gcc acc aca cca	1097
Gln Ile His Ala Pro Ala Pro Ala Pro Asn Asp Leu Ala Thr Thr Pro	
285 290 295	
gag tcc gtt cag ctt cag gac agc tgg gtg cta aac agc aac gtg cca	1145
Glu Ser Val Gln Leu Gln Asp Ser Trp Val Leu Asn Ser Asn Val Pro	
300 305 310	
ctg gag acc cgg cac ttc ctc ttc aag acc tcc tcg ggg agc aca ccc	1193
Leu Glu Thr Arg His Phe Leu Phe Lys Thr Ser Ser Gly Ser Thr Pro	
315 320 325	
ttg ttc agc agc tct tcc ccg gga tac cct ttg acc tca gga acg gtt	1241
Leu Phe Ser Ser Ser Ser Pro Gly Tyr Pro Leu Thr Ser Gly Thr Val	
330 335 340	
tac acg ccc ccg ccc cgc ctg ctg ccc agg aat act ttc tcc agg aag	1289
Tyr Thr Pro Pro Pro Arg Leu Leu Pro Arg Asn Thr Phe Ser Arg Lys	
345 350 355 360	
gct ttc aag ctg aag aag ccc tcc aaa tac tgc agc tgg aaa tgt gct	1337
Ala Phe Lys Leu Lys Lys Pro Ser Lys Tyr Cys Ser Trp Lys Cys Ala	
365 370 375	
gcc ctc tcc gcc att gcc gcg gcc ctc ctc ttg gct att ttg ctg gcg	1385
Ala Leu Ser Ala Ile Ala Ala Ala Leu Leu Leu Ala Ile Leu Leu Ala	
380 385 390	
tat ttc ata gtg ccc tgg tcg ttg aaa aac agc agc ata gac agt ggt	1433

Tyr Phe Ile Val Pro Trp Ser Leu Lys Asn Ser Ser Ile Asp Ser Gly	
395 400 405	
gaa gca gaa gtt ggt cgg cgg gta aca caa gaa gtc cca cca ggg gtg	1481
Glu Ala Glu Val Gly Arg Arg Val Thr Gln Glu Val Pro Pro Gly Val	
410 415 420	
ttt tgg agg tca caa att cac atc agt cag ccc cag ttc tta aag ttc	1529
Phe Trp Arg Ser Gln Ile His Ile Ser Gln Pro Gln Phe Leu Lys Phe	
425 430 435 440	
aac atc tcc ctc ggg aag gac gct ctc ttt ggt gtt tac ata aga aga	1577
Asn Ile Ser Leu Gly Lys Asp Ala Leu Phe Gly Val Tyr Ile Arg Arg	
445 450 455	
gga ctt cca cca tct cat gcc cag tat gac ttc atg gaa cgt ctg gac	1625
Gly Leu Pro Pro Ser His Ala Gln Tyr Asp Phe Met Glu Arg Leu Asp	
460 465 470	
ggg aag gag aag tgg agt gtg gtt gag tct ccc agg gaa cgc cgg agc	1673
Gly Lys Glu Lys Trp Ser Val Val Glu Ser Pro Arg Glu Arg Arg Ser	
475 480 485	
ata cag acc ttg gtt cag aat gaa gcc gtg ttt gtg cag tac ctg gat	1721
Ile Gln Thr Leu Val Gln Asn Glu Ala Val Phe Val Gln Tyr Leu Asp	
490 495 500	
gtg ggc ctg tgg cat ctg gcc ttc tac aat gat gga aaa gac aaa gag	1769
Val Gly Leu Trp His Leu Ala Phe Tyr Asn Asp Gly Lys Asp Lys Glu	
505 510 515 520	
atg gtt tcc ttc aat act gtt gtc cta gat tca gtg cag gac tgt cca	1817
Met Val Ser Phe Asn Thr Val Val Leu Asp Ser Val Gln Asp Cys Pro	
525 530 535	
cgt aac tgc cat ggg aat ggt gaa tgt gtg tcc ggg 'gtg tgt cac tgt	1865
Arg Asn Cys His Gly Asn Gly Glu Cys Val Ser Gly Val Cys His Cys	
540 545 550	
ttc cca gga ttt cta gga gca gac tgt gct aaa gct gcc tgc cct gtc	1913
Phe Pro Gly Phe Leu Gly Ala Asp Cys Ala Lys Ala Ala Cys Pro Val	
555 560 565	
ctg tgc agt ggg aat gga caa tat tct aaa ggg acg tgc cag tgc tac	1961
Leu Cys Ser Gly Asn Gly Gln Tyr Ser Lys Gly Thr Cys Gln Cys Tyr	
570 575 580	
agc ggc tgg aaa ggt gca gag tgc gac gtg ccc atg aat cag tgc atc	2009

Ser	Gly	Trp	Lys	Gly	Ala	Glu	Cys	Asp	Val	Pro	Met	Asn	Gln	Cys	Ile	
585					590					595					600	
gat	cct	tcc	tgc	ggg	ggc	cac	ggc	tcc	tgc	att	gat	ggg	aac	tgt	gtc	2057
Asp	Pro	Ser	Cys	Gly	Gly	His	Gly	Ser	Cys	Ile	Asp	Gly	Asn	Cys	Val	
				605					610					615		
tgc	tct	gct	ggc	tac	aaa	ggc	gag	cac	tgt	gag	gaa	gtt	gat	tgc	ttg	2105
Cys	Ser	Ala	Gly	Tyr	Lys	Gly	Glu	His	Cys	Glu	Glu	Val	Asp	Cys	Leu	
			620					625					630			
gat	ccc	acc	tgc	tcc	agc	cac	gga	gtc	tgt	gtg	aat	gga	gaa	tgc	ctg	2153
Asp	Pro	Thr	Cys	Ser	Ser	His	Gly	Val	Cys	Val	Asn	Gly	Glu	Cys	Leu	
		635					640					645				
tgc	agc	cct	ggc	tgg	ggg	ggg	ctg	aac	tgt	gag	ctg	gcg	agg	gtc	cag	2201
Cys	Ser	Pro	Gly	Trp	Gly	Gly	Leu	Asn	Cys	Glu	Leu	Ala	Arg	Val	Gln	
	650					655					660					
tgc	cca	gac	cag	tgc	agt	ggg	cat	ggc	acg	tac	ctg	cct	gac	acg	ggc	2249
Cys	Pro	Asp	Gln	Cys	Ser	Gly	His	Gly	Thr	Tyr	Leu	Pro	Asp	Thr	Gly	
665					670				675						680	
ctc	tgc	agc	tgc	gat	ccc	aac	tgg	atg	ggg	ccc	gac	tgc	tct	gtt	gaa	2297
Leu	Cys	Ser	Cys	Asp	Pro	Asn	Trp	Met	Gly	Pro	Asp	Cys	Ser	Val	Glu	
				685					690					695		
gtg	tgc	tca	gta	gac	tgt	ggc	act	cac	ggc	gtc	tgc	atc	ggg	gga	gcc	2345
Val	Cys	Ser	Val	Asp	Cys	Gly	Thr	His	Gly	Val	Cys	Ile	Gly	Gly	Ala	
			700					705					710			
tgc	cgc	tgt	gaa	gag	ggc	tgg	aca	ggc	gca	gcg	tgt	gac	cag	cgc	gtg	2393
Cys	Arg	Cys	Glu	Glu	Gly	Trp	Thr	Gly	Ala	Ala	Cys	Asp	Gln	Arg	Val	
		715					720					725				
tgc	cac	ccc	cgc	tgc	att	gag	cat	ggg	acc	tgt	aaa	gat	ggc	aaa	tgt	2441
Cys	His	Pro	Arg	Cys	Ile	Glu	His	Gly	Thr	Cys	Lys	Asp	Gly	Lys	Cys	
	730					735					740					
gaa	tgc	cga	gag	ggc	tgg	aat	ggg	gaa	cac	tgc	acc	att	gat	ggc	tgc	2489
Glu	Cys	Arg	Glu	Gly	Trp	Asn	Gly	Glu	His	Cys	Thr	Ile	Asp	Gly	Cys	
745					750					755					760	
cct	gac	ttg	tgc	aac	ggg	aac	ggg	aga	tgc	aca	ctg	ggg	cag	aac	agc	2537
Pro	Asp	Leu	Cys	Asn	Gly	Asn	Gly	Arg	Cys	Thr	Leu	Gly	Gln	Asn	Ser	
				765				770					775			
tgg	cag	tgt	gtc	tgc	cag	acc	ggc	tgg	aga	ggg	ccc	gga	tgc	aac	gtt	2585



Trp	Gln	Cys	Val	Cys	Gln	Thr	Gly	Trp	Arg	Gly	Pro	Gly	Cys	Asn	Val		
			780					785						790			
gcc	atg	gaa	act	tcc	tgt	gct	gat	aac	aag	gat	aat	gag	gga	gat	ggc	2633	
Ala	Met	Glu	Thr	Ser	Cys	Ala	Asp	Asn	Lys	Asp	Asn	Glu	Gly	Asp	Gly		
		795					800					805					
ctg	gtg	gat	tgt	ttg	gac	cct	gac	tgc	tgc	ctg	cag	tca	gcc	tgt	cag	2681	
Leu	Val	Asp	Cys	Leu	Asp	Pro	Asp	Cys	Cys	Leu	Gln	Ser	Ala	Cys	Gln		
	810					815					820						
aac	agc	ctg	ctc	tgc	cgg	ggg	tcc	cgg	gac	cca	ctg	gac	atc	att	cag	2729	
Asn	Ser	Leu	Leu	Cys	Arg	Gly	Ser	Arg	Asp	Pro	Leu	Asp	Ile	Ile	Gln		
825					830					835					840		
cag	ggc	cag	acg	gat	tgg	ccc	gca	gtg	aag	tcc	ttc	tat	gac	cgt	atc	2777	
Gln	Gly	Gln	Thr	Asp	Trp	Pro	Ala	Val	Lys	Ser	Phe	Tyr	Asp	Arg	Ile		
			845						850					855			
aag	ctc	ttg	gca	ggc	aag	gat	agc	acc	cac	atc	att	cct	gga	gag	aac	2825	
Lys	Leu	Leu	Ala	Gly	Lys	Asp	Ser	Thr	His	Ile	Ile	Pro	Gly	Glu	Asn		
		860						865					870				
cct	ttc	aac	agc	agc	ttg	gtt	tct	ctc	atc	cga	ggc	caa	gta	gta	act	2873	
Pro	Phe	Asn	Ser	Ser	Leu	Val	Ser	Leu	Ile	Arg	Gly	Gln	Val	Val	Thr		
		875					880					885					
aca	gat	gga	act	ccc	ctg	gtc	ggg	gtg	aac	gtg	tct	ttt	gtc	aag	tac	2921	
Thr	Asp	Gly	Thr	Pro	Leu	Val	Gly	Val	Asn	Val	Ser	Phe	Val	Lys	Tyr		
	890					895					900						
cca	aaa	tac	ggc	tac	acc	atc	acc	cgc	cag	gat	ggc	acg	ttc	gac	ctg	2969	
Pro	Lys	Tyr	Gly	Tyr	Thr	Ile	Thr	Arg	Gln	Asp	Gly	Thr	Phe	Asp	Leu		
905					910					915					920		
atc	gca	aat	gga	ggg	gct	tcc	ttg	act	cta	cac	ttt	gag	cga	gcc	ccg	3017	
Ile	Ala	Asn	Gly	Gly	Ala	Ser	Leu	Thr	Leu	His	Phe	Glu	Arg	Ala	Pro		
			925					930				935					
ttc	atg	agc	cag	gag	cgc	act	gtg	tgg	ctg	ccg	tgg	aac	agc	ttt	tac	3065	
Phe	Met	Ser	Gln	Glu	Arg	Thr	Val	Trp	Leu	Pro	Trp	Asn	Ser	Phe	Tyr		
		940						945				950					
gcc	atg	gac	acc	ctg	gtg	atg	aag	acc	gag	gag	aac	tcc	atc	ccc	agc	3113	
Ala	Met	Asp	Thr	Leu	Val	Met	Lys	Thr	Glu	Glu	Asn	Ser	Ile	Pro	Ser		
		955					960					965					
tgt	gac	ctc	agt	ggc	ttt	gtc	cgg	cct	gat	cca	atc	atc	atc	tcc	tcc	3161	

Cys	Asp	Leu	Ser	Gly	Phe	Val	Arg	Pro	Asp	Pro	Ile	Ile	Ile	Ser	Ser		
970						975					980						
cca	ctg	tcc	acc	ttc	ttt	agt	gct	gcc	cct	ggg	cag	aat	ccc	atc	gtg	3209	
Pro	Leu	Ser	Thr	Phe	Phe	Ser	Ala	Ala	Pro	Gly	Gln	Asn	Pro	Ile	Val		
985					990					995					1000		
cct	gag	acc	cag	gtt	ctt	cat	gaa	gaa	atc	gag	ctc	cct	ggt	tcc	aat	3257	
Pro	Glu	Thr	Gln	Val	Leu	His	Glu	Glu	Ile	Glu	Leu	Pro	Gly	Ser	Asn		
				1005					1010					1015			
gtg	aaa	ctt	cgc	tat	ctg	agc	tct	aga	act	gca	ggg	tac	aag	tca	ctg	3305	
Val	Lys	Leu	Arg	Tyr	Leu	Ser	Ser	Arg	Thr	Ala	Gly	Tyr	Lys	Ser	Leu		
			1020					1025					1030				
ctg	aag	atc	acc	atg	acc	cag	tcc	aca	gtg	ccc	ctg	aac	ctc	att	agg	3353	
Leu	Lys	Ile	Thr	Met	Thr	Gln	Ser	Thr	Val	Pro	Leu	Asn	Leu	Ile	Arg		
			1035				1040						1045				
gtt	cac	ctg	atg	gtg	gct	gtc	gag	ggg	cat	ctc	ttc	cag	aag	tca	ttc	3401	
Val	His	Leu	Met	Val	Ala	Val	Glu	Gly	His	Leu	Phe	Gln	Lys	Ser	Phe		
			1050				1055				1060						
cag	gct	tct	ccc	aac	ctg	gcc	tcc	acc	ttc	atc	tgg	gac	aag	aca	gat	3449	
Gln	Ala	Ser	Pro	Asn	Leu	Ala	Ser	Thr	Phe	Ile	Trp	Asp	Lys	Thr	Asp		
1065				1070						1075					1080		
gcg	tat	ggc	caa	agg	gtg	tat	gga	ctc	tca	gat	gct	gtt	gtg	tct	gtc	3497	
Ala	Tyr	Gly	Gln	Arg	Val	Tyr	Gly	Leu	Ser	Asp	Ala	Val	Val	Ser	Val		
				1085				1090					1095				
ggg	ttt	gaa	tat	gag	acc	tgt	ccc	agt	cta	att	ctc	tgg	gag	aaa	agg	3545	
Gly	Phe	Glu	Tyr	Glu	Thr	Cys	Pro	Ser	Leu	Ile	Leu	Trp	Glu	Lys	Arg		
			1100					1105					1110				
aca	gcc	ctc	ctt	cag	gga	ttc	gag	ctg	gac	ccc	tcc	aac	ctc	ggt	ggc	3593	
Thr	Ala	Leu	Leu	Gln	Gly	Phe	Glu	Leu	Asp	Pro	Ser	Asn	Leu	Gly	Gly		
			1115				1120					1125					
tgg	tcc	cta	gac	aaa	cac	cac	atc	ctc	aat	gtt	aaa	agt	gga	atc	cta	3641	
Trp	Ser	Leu	Asp	Lys	His	His	Ile	Leu	Asn	Val	Lys	Ser	Gly	Ile	Leu		
			1130			1135				1140							
cac	aaa	ggc	act	ggg	gaa	aac	cag	ttc	ctg	acc	cag	cag	cct	gcc	atc	3689	
His	Lys	Gly	Thr	Gly	Glu	Asn	Gln	Phe	Leu	Thr	Gln	Gln	Pro	Ala	Ile		
			1145			1150				1155				1160			
atc	acc	agc	atc	atg	ggc	aat	ggt	cgc	cgc	cgg	agc	att	tcc	tgt	ccc	3737	

Ile Thr Ser Ile Met Gly Asn Gly Arg Arg Arg Ser Ile Ser Cys Pro	
1165 1170 1175	
agc tgc aac ggc ctt gct gaa ggc aac aag ctg ctg gcc cca gtg gct	3785
Ser Cys Asn Gly Leu Ala Glu Gly Asn Lys Leu Leu Ala Pro Val Ala	
1180 1185 1190	
ctg gct gtt gga atc gat ggg agc ctc tat gtg ggt gac ttc aat tac	3833
Leu Ala Val Gly Ile Asp Gly Ser Leu Tyr Val Gly Asp Phe Asn Tyr	
1195 1200 1205	
atc cga cgc atc ttt ccc tct cga aat gtg acc agc atc ttg gag tta	3881
Ile Arg Arg Ile Phe Pro Ser Arg Asn Val Thr Ser Ile Leu Glu Leu	
1210 1215 1220	
cga aat aaa gag ttt aaa cat agc aac aac cca gca cac aag tac tac	3929
Arg Asn Lys Glu Phe Lys His Ser Asn Asn Pro Ala His Lys Tyr Tyr	
1225 1230 1235 1240	
ttg gca gtg gac ccc gtg tcc ggc tcg ctc tac gtg tcc gac acc aac	3977
Leu Ala Val Asp Pro Val Ser Gly Ser Leu Tyr Val Ser Asp Thr Asn	
1245 1250 1255	
agc agg aga atc tac cgc gtc aag tct ctg agt gga acc aaa gac ctg	4025
Ser Arg Arg Ile Tyr Arg Val Lys Ser Leu Ser Gly Thr Lys Asp Leu	
1260 1265 1270	
gct ggg aat tcg gaa gtt gtg gca ggg acg gga gag cag tgt cta ccc	4073
Ala Gly Asn Ser Glu Val Val Ala Gly Thr Gly Glu Gln Cys Leu Pro	
1275 1280 1285	
ttt gat gaa gcc cgc tgc ggg gat gga ggg aag gcc ata gat gca acc	4121
Phe Asp Glu Ala Arg Cys Gly Asp Gly Gly Lys Ala Ile Asp Ala Thr	
1290 1295 1300	
ctg atg agc ccg aga ggt att gca gta gac aag aat ggg ctc atg tac	4169
Leu Met Ser Pro Arg Gly Ile Ala Val Asp Lys Asn Gly Leu Met Tyr	
1305 1310 1315 1320	
ttt gtc gat gcc acc atg atc cgg aag gtt gac cag aat gga atc atc	4217
Phe Val Asp Ala Thr Met Ile Arg Lys Val Asp Gln Asn Gly Ile Ile	
1325 1330 1335	
tcc acc ctg ctg ggc tcc aat gac ctc act gcc gtc cgg ccg ctg agc	4265
Ser Thr Leu Leu Gly Ser Asn Asp Leu Thr Ala Val Arg Pro Leu Ser	
1340 1345 1350	
tgt gat tcc agc atg gat gta gcc cag gtt cgt ctg gag tgg cca aca	4313

Cys Asp Ser Ser Met Asp Val Ala Gln Val Arg Leu Glu Trp Pro Thr	
1355	1360 1365
gac ctt gct gtc aat ccc atg gat aac tcc ttg tat gtt cta gag aac	4361
Asp Leu Ala Val Asn Pro Met Asp Asn Ser Leu Tyr Val Leu Glu Asn	
1370	1375 1380
aat gtc atc ctt cga atc acc gag aac cac caa gtc agc atc att gcg	4409
Asn Val Ile Leu Arg Ile Thr Glu Asn His Gln Val Ser Ile Ile Ala	
1385	1390 1395 1400
gga cgc ccc atg cac tgc caa gtt cct ggc att gac tac tca ctc agc	4457
Gly Arg Pro Met His Cys Gln Val Pro Gly Ile Asp Tyr Ser Leu Ser	
	1405 1410 1415
aaa cta gcc att cac tct gcc ctg gag tca gcc agt gcc att gcc att	4505
Lys Leu Ala Ile His Ser Ala Leu Glu Ser Ala Ser Ala Ile Ala Ile	
	1420 1425 1430
tct cac act ggg gtc ctc tac atc act gag aca gat gag aag aag att	4553
Ser His Thr Gly Val Leu Tyr Ile Thr Glu Thr Asp Glu Lys Lys Ile	
	1435 1440 1445
aac cgt cta cgc cag gta aca acc aac ggg gag atc tgc ctt tta gct	4601
Asn Arg Leu Arg Gln Val Thr Thr Asn Gly Glu Ile Cys Leu Leu Ala	
	1450 1455 1460
ggg gca gcc tcg gac tgc gac tgc aaa aac gat gtc aat tgc aac tgc	4649
Gly Ala Ala Ser Asp Cys Asp Cys Lys Asn Asp Val Asn Cys Asn Cys	
	1465 1470 1475 1480
tat tca gga gat gat gcc tac gcg act gat gcc atc ttg aat tcc cca	4697
Tyr Ser Gly Asp Asp Ala Tyr Ala Thr Asp Ala Ile Leu Asn Ser Pro	
	1485 1490 1495
tca tcc tta gct gta gct cca gat ggt acc att tac att gca gac ctt	4745
Ser Ser Leu Ala Val Ala Pro Asp Gly Thr Ile Tyr Ile Ala Asp Leu	
	1500 1505 1510
gga aat att cgg atc agg gcg gtc agc aag aac aag cct gtt ctt aat	4793
Gly Asn Ile Arg Ile Arg Ala Val Ser Lys Asn Lys Pro Val Leu Asn	
	1515 1520 1525
gcc ttc aac cag tat gag gct gca tcc ccc gga gag cag gag tta tat	4841
Ala Phe Asn Gln Tyr Glu Ala Ala Ser Pro Gly Glu Gln Glu Leu Tyr	
	1530 1535 1540
gtt ttc aac gct gat ggc atc cac caa tac act gtg agc ctg gtg aca	4889

Val	Phe	Asn	Ala	Asp	Gly	Ile	His	Gln	Tyr	Thr	Val	Ser	Leu	Val	Thr	
1545					1550				1555					1560		
ggg	gag	tac	ttg	tac	aat	ttc	aca	tat	agt	act	gac	aat	gat	gtc	act	4937
Gly	Glu	Tyr	Leu	Tyr	Asn	Phe	Thr	Tyr	Ser	Thr	Asp	Asn	Asp	Val	Thr	
			1565					1570					1575			
gaa	ttg	att	gac	aat	aat	ggg	aat	tcc	ctg	aag	atc	cgt	cgg	gac	agc	4985
Glu	Leu	Ile	Asp	Asn	Asn	Gly	Asn	Ser	Leu	Lys	Ile	Arg	Arg	Asp	Ser	
			1580				1585				1590					
agt	ggc	atg	ccc	cgt	cac	ctg	ctc	atg	cct	gac	aac	cag	atc	atc	acc	5033
Ser	Gly	Met	Pro	Arg	His	Leu	Leu	Met	Pro	Asp	Asn	Gln	Ile	Ile	Thr	
		1595				1600				1605						
ctc	acc	gtg	ggc	acc	aat	gga	ggc	ctc	aaa	gtc	gtg	tcc	aca	cag	aac	5081
Leu	Thr	Val	Gly	Thr	Asn	Gly	Gly	Leu	Lys	Val	Val	Ser	Thr	Gln	Asn	
	1610				1615			1620								
ctg	gag	ctt	ggt	ctc	atg	acc	tat	gat	ggc	aac	act	ggg	ctc	ctg	gcc	5129
Leu	Glu	Leu	Gly	Leu	Met	Thr	Tyr	Asp	Gly	Asn	Thr	Gly	Leu	Leu	Ala	
1625			1630					1635				1640				
acc	aag	agc	gat	gaa	aca	gga	tgg	acg	act	ttc	tat	gac	tat	gac	cac	5177
Thr	Lys	Ser	Asp	Glu	Thr	Gly	Trp	Thr	Thr	Phe	Tyr	Asp	Tyr	Asp	His	
			1645				1650					1655				
gaa	ggc	cgc	ctg	acc	aac	gtg	acg	cgc	ccc	acg	ggg	gtg	gta	acc	agt	5225
Glu	Gly	Arg	Leu	Thr	Asn	Val	Thr	Arg	Pro	Thr	Gly	Val	Val	Thr	Ser	
		1660				1665					1670					
ctg	cac	cgg	gaa	atg	gag	aaa	tct	att	acc	att	gac	att	gag	aac	tcc	5273
Leu	His	Arg	Glu	Met	Glu	Lys	Ser	Ile	Thr	Ile	Asp	Ile	Glu	Asn	Ser	
	1675				1680			1685								
aac	cgt	gat	gat	gac	gtc	act	gtc	atc	acc	aac	ctc	tct	tca	gta	gag	5321
Asn	Arg	Asp	Asp	Asp	Val	Thr	Val	Ile	Thr	Asn	Leu	Ser	Ser	Val	Glu	
	1690				1695			1700								
gcc	tcc	tac	aca	gtg	gta	caa	gat	caa	gtt	cgg	aac	agc	tac	cag	ctc	5369
Ala	Ser	Tyr	Thr	Val	Val	Gln	Asp	Gln	Val	Arg	Asn	Ser	Tyr	Gln	Leu	
1705			1710				1715							1720		
tgt	aat	aat	ggt	acc	ctg	agg	gtg	atg	tat	gct	aat	ggg	atg	ggt	atc	5417
Cys	Asn	Asn	Gly	Thr	Leu	Arg	Val	Met	Tyr	Ala	Asn	Gly	Met	Gly	Ile	
			1725				1730					1735				
aqc	ttc	cac	agc	gag	ccc	cat	gtc	cta	gcg	ggc	acc	atc	acc	ccc	acc	5465

Ser Phe His Ser Glu Pro His Val Leu Ala Gly Thr Ile Thr Pro Thr	
1740 1745 1750	
att gga cgc tgc aac atc tcc ctg cct atg gag aat ggc tta aac tcc	5513
Ile Gly Arg Cys Asn Ile Ser Leu Pro Met Glu Asn Gly Leu Asn Ser	
1755 1760 1765	
att gag tgg cgc cta aga aag gaa cag att aaa ggc aaa gtc acc atc	5561
Ile Glu Trp Arg Leu Arg Lys Glu Gln Ile Lys Gly Lys Val Thr Ile	
1770 1775 1780	
ttt ggc agg aag ctc cgg gtc cat gga aga aat ctc ttg tcc att gac	5609
Phe Gly Arg Lys Leu Arg Val His Gly Arg Asn Leu Leu Ser Ile Asp	
1785 1790 1795 1800	
tat gat cga aat att cgg act gaa aag atc tat gat gac cac cgg aag	5657
Tyr Asp Arg Asn Ile Arg Thr Glu Lys Ile Tyr Asp Asp His Arg Lys	
1805 1810 1815	
ttc acc ctg agg atc att tat gac cag gtg ggc cgc ccc ttc ctc tgg	5705
Phe Thr Leu Arg Ile Ile Tyr Asp Gln Val Gly Arg Pro Phe Leu Trp	
1820 1825 1830	
ctg ccc agc agc ggg ctg gca gct gtc aac gtg tca tac ttc ttc aat	5753
Leu Pro Ser Ser Gly Leu Ala Ala Val Asn Val Ser Tyr Phe Phe Asn	
1835 1840 1845	
ggg cgc ctg gct ggg ctt cag cgt ggg gcc atg agc gag agg aca gac	5801
Gly Arg Leu Ala Gly Leu Gln Arg Gly Ala Met Ser Glu Arg Thr Asp	
1850 1855 1860	
atc gac aag caa ggc cgc atc gtg tcc cgc atg ttc gct gac ggg aaa	5849
Ile Asp Lys Gln Gly Arg Ile Val Ser Arg Met Phe Ala Asp Gly Lys	
1865 1870 1875 1880	
gtg tgg agc tac tcc tac ctt gac aag tcc atg gtc ctc ctg ctt cag	5897
Val Trp Ser Tyr Ser Tyr Leu Asp Lys Ser Met Val Leu Leu Leu Gln	
1885 1890 1895	
agc caa cgt cag tat ata ttt gag tat gac tcc tct gac cgc ctc ctt	5945
Ser Gln Arg Gln Tyr Ile Phe Glu Tyr Asp Ser Ser Asp Arg Leu Leu	
1900 1905 1910	
gcc gtc acc atg ccc agc gtg gcc cgg cac agc atg tcc aca cac acc	5993
Ala Val Thr Met Pro Ser Val Ala Arg His Ser Met Ser Thr His Thr	
1915 1920 1925	
tcc atc ggc tac atc cgt aat att tac aac ccg cct gaa agc aat gct	6041

Ser Ile Gly Tyr Ile Arg Asn Ile Tyr Asn Pro Pro Glu Ser Asn Ala	
1930	1935 1940
tcg gtc atc ttt gac tac agt gat gac ggc cgc atc ctg aag acc tcc	6089
Ser Val Ile Phe Asp Tyr Ser Asp Asp Gly Arg Ile Leu Lys Thr Ser	
1945	1950 1955 1960
ttt ttg ggc acc gga cgc cag gtg ttc tac aag tat ggg aaa ctc tcc	6137
Phe Leu Gly Thr Gly Arg Gln Val Phe Tyr Lys Tyr Gly Lys Leu Ser	
	1965 1970 1975
aag tta tca gag att gtc tac gac agt acc gcc gtc acc ttc ggg tat	6185
Lys Leu Ser Glu Ile Val Tyr Asp Ser Thr Ala Val Thr Phe Gly Tyr	
	1980 1985 1990
gac gag acc act ggt gtc ttg aag atg gtc aac ctc caa agt ggg ggc	6233
Asp Glu Thr Thr Gly Val Leu Lys Met Val Asn Leu Gln Ser Gly Gly	
	1995 2000 2005
ttc tcc tgc acc atc agg tac cgg aag att ggc ccc ctg gtg gac aag	6281
Phe Ser Cys Thr Ile Arg Tyr Arg Lys Ile Gly Pro Leu Val Asp Lys	
	2010 2015 2020
cag atc tac agg ttc tcc gag gaa ggc atg gtc aat gcc agg ttt gac	6329
Gln Ile Tyr Arg Phe Ser Glu Glu Gly Met Val Asn Ala Arg Phe Asp	
2025	2030 2035 2040
tac acc tat cat gac aac agc ttc cgc atc gca agc atc aag ccc gtc	6377
Tyr Thr Tyr His Asp Asn Ser Phe Arg Ile Ala Ser Ile Lys Pro Val	
	2045 2050 2055
ata agt gag act ccc ctc ccc gtt gac ctc tac cgc tat gat gag att	6425
Ile Ser Glu Thr Pro Leu Pro Val Asp Leu Tyr Arg Tyr Asp Glu Ile	
	2060 2065 2070
tct ggc aag gtg gaa cac ttt ggt aag ttt gga gtc atc tat tat gac	6473
Ser Gly Lys Val Glu His Phe Gly Lys Phe Gly Val Ile Tyr Tyr Asp	
	2075 2080 2085
atc aac cag atc atc acc act gcc gtg atg acc ctc agc aaa cac ttc	6521
Ile Asn Gln Ile Ile Thr Thr Ala Val Met Thr Leu Ser Lys His Phe	
	2090 2095 2100
gac acc cat ggg cgg atc aag gag gtc cag tat gag atg ttc cgg tcc	6569
Asp Thr His Gly Arg Ile Lys Glu Val Gln Tyr Glu Met Phe Arg Ser	
2105	2110 2115 2120
ctc atg tac tgg atg acg gtg caa tat gac agc atg ggc agg gtg atc	6617

Leu Met Tyr Trp Met Thr Val Gln Tyr Asp Ser Met Gly Arg Val Ile	
2125	2130 2135
aag agg gag cta aaa ctg ggg ccc tat gcc aat acc acg aag tac acc	6665
Lys Arg Glu Leu Lys Leu Gly Pro Tyr Ala Asn Thr Thr Lys Tyr Thr	
2140	2145 2150
tat gac tac gat ggg gac ggg cag ctc cag agc gtg gcc gtc aat gac	6713
Tyr Asp Tyr Asp Gly Asp Gly Gln Leu Gln Ser Val Ala Val Asn Asp	
2155	2160 2165
cgc ccg acc tgg cgc tac agc tat gac ctt aat ggg aat ctc cac tta	6761
Arg Pro Thr Trp Arg Tyr Ser Tyr Asp Leu Asn Gly Asn Leu His Leu	
2170	2175 2180
ctg aac cca ggc aac agt gtg cgc ctc atg ccc ttg cgc tat gac ctc	6809
Leu Asn Pro Gly Asn Ser Val Arg Leu Met Pro Leu Arg Tyr Asp Leu	
2185	2190 2195 2200
cgg gat cgg ata acc aga ctc ggg gat gtg cag tac aaa att gac gac	6857
Arg Asp Arg Ile Thr Arg Leu Gly Asp Val Gln Tyr Lys Ile Asp Asp	
2205	2210 2215
gat ggc tat ctg tgc cag aga ggg tct gac atc ttc gaa tac aat tcc	6905
Asp Gly Tyr Leu Cys Gln Arg Gly Ser Asp Ile Phe Glu Tyr Asn Ser	
2220	2225 2230
aag ggc ctc cta aca aga gcc tac aac aag gcc agc ggg tgg agt gtc	6953
Lys Gly Leu Leu Thr Arg Ala Tyr Asn Lys Ala Ser Gly Trp Ser Val	
2235	2240 2245
cag tac cgc tat gat ggc gta gga cgg cgg gct tcc tac aag acc aac	7001
Gln Tyr Arg Tyr Asp Gly Val Gly Arg Arg Ala Ser Tyr Lys Thr Asn	
2250	2255 2260
ctg ggc cac cac ctg cag tac ttc tac tct gac ctc cac aac ccg acg	7049
Leu Gly His His Leu Gln Tyr Phe Tyr Ser Asp Leu His Asn Pro Thr	
2265	2270 2275 2280
cgc atc acc cat gtc tac aat cac tcc aac tcg gag att acc tca ctg	7097
Arg Ile Thr His Val Tyr Asn His Ser Asn Ser Glu Ile Thr Ser Leu	
2285	2290 2295
tac tac gac ctc cag ggc cac ctc ttt gcc atg gag agc agc agt ggg	7145
Tyr Tyr Asp Leu Gln Gly His Leu Phe Ala Met Glu Ser Ser Ser Gly	
2300	2305 2310
gag gag tac tat gtt gcc tct gat aac aca ggg act cct ctg gct gtg	7193



Glu Glu Tyr Tyr Val Ala Ser Asp Asn Thr Gly Thr Pro Leu Ala Val	
2315	2320 2325
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Phe Ser Ile Asn Gly Leu Met Ile Lys Gln Leu Gln Tyr Thr Ala Tyr	
2330	2335 2340
ggg gag att tat tat gac tcc aac ccc gac ttc cag atg gtc att ggc	7289
Gly Glu Ile Tyr Tyr Asp Ser Asn Pro Asp Phe Gln Met Val Ile Gly	
2345	2350 2355 2360
ttc cat ggg gga ctc tat gac ccc ctg acc aag ctg gtc cac ttc act	7337
Phe His Gly Gly Leu Tyr Asp Pro Leu Thr Lys Leu Val His Phe Thr	
2365	2370 2375
cag cgt gat tat gat gtg ctg gca gga cga tgg acc tcc cca gac tat	7385
Gln Arg Asp Tyr Asp Val Leu Ala Gly Arg Trp Thr Ser Pro Asp Tyr	
2380	2385 2390
acc atg tgg aaa aac gtg ggc aag gag ccg gcc ccc ttt aac ctg tat	7433
Thr Met Trp Lys Asn Val Gly Lys Glu Pro Ala Pro Phe Asn Leu Tyr	
2395	2400 2405
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Met Phe Lys Ser Asn Asn Pro Leu Ser Ser Glu Leu Asp Leu Lys Asn	
2410	2415 2420
tac gtg aca gat gtg aaa agc tgg ctt gtg atg ttt gga ttt cag ctt	7529
Tyr Val Thr Asp Val Lys Ser Trp Leu Val Met Phe Gly Phe Gln Leu	
2425	2430 2435 2440
agc aac atc att cct ggc ttc ccg aga gcc aaa atg tat ttc gtg cct	7577
Ser Asn Ile Ile Pro Gly Phe Pro Arg Ala Lys Met Tyr Phe Val Pro	
2445	2450 2455
cct ccc tat gaa ttg tca gag agt caa gca agt gag aat gga cag ctc	7625
Pro Pro Tyr Glu Leu Ser Glu Ser Gln Ala Ser Glu Asn Gly Gln Leu	
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att aca ggt gtc caa cag aca aca gag aga cat aac cag gcc ttc atg	7673
Ile Thr Gly Val Gln Gln Thr Thr Glu Arg His Asn Gln Ala Phe Met	
2475	2480 2485
gct ctg gaa gga cag gtc att act aaa aag ctc cac gcc agc atc cga	7721
Ala Leu Glu Gly Gln Val Ile Thr Lys Lys Leu His Ala Ser Ile Arg	
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Glu Lys Ala Gly His Trp Phe Ala Thr Thr Thr Pro Ile Ile Gly Lys	
2505	2510 2515 2520
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Gly Ile Met Phe Ala Ile Lys Glu Gly Arg Val Thr Thr Gly Val Ser	
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agc atc gcc agc gaa gat agc cgc aag gtg gca tct gtg ctg aac aac	7865
Ser Ile Ala Ser Glu Asp Ser Arg Lys Val Ala Ser Val Leu Asn Asn	
2540 2545 2550	
gcc tac tac ctg gac aag atg cac tac agc atc gag ggc aag gac acc	7913
Ala Tyr Tyr Leu Asp Lys Met His Tyr Ser Ile Glu Gly Lys Asp Thr	
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cac tac ttt gtg aag att ggc tca gcc gat ggc gac ctg gtc aca cta	7961
His Tyr Phe Val Lys Ile Gly Ser Ala Asp Gly Asp Leu Val Thr Leu	
2570 2575 2580	
ggc acc acc atc ggc cgc aag gtg cta gag agc ggg gtg aac gtg acc	8009
Gly Thr Thr Ile Gly Arg Lys Val Leu Glu Ser Gly Val Asn Val Thr	
2585 2590 2595 2600	
gtg tcc cag ccc acg ctg ctg gtc aac ggc agg act cga agg ttc acg	8057
Val Ser Gln Pro Thr Leu Leu Val Asn Gly Arg Thr Arg Arg Phe Thr	
2605 2610 2615	
aac att gag ttc cag tac tcc acg ctg ctg ctc agc atc cgc tat ggc	8105
Asn Ile Glu Phe Gln Tyr Ser Thr Leu Leu Leu Ser Ile Arg Tyr Gly	
2620 2625 2630	
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Leu Thr Pro Asp Thr Leu Asp Glu Glu Lys Ala Arg Val Leu Asp Gln	
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Ala Arg Gln Arg Ala Leu Gly Thr Ala Trp Ala Lys Glu Gln Gln Lys	
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gcc agg gac ggg aga gag ggg agc cgc ctg tgg act gag ggc gag aag	8249
Ala Arg Asp Gly Arg Glu Gly Ser Arg Leu Trp Thr Glu Gly Glu Lys	
2665 2670 2675 2680	
cag cag ctt ctg agc acc ggg cgc gtg caa ggg tac gag gga tat tac	8297
Gln Gln Leu Leu Ser Thr Gly Arg Val Gln Gly Tyr Glu Gly Tyr Tyr	
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Val	Leu	Pro	Val	Glu	Gln	Tyr	Pro	Glu	Leu	Ala	Asp	Ser	Ser	Ser	Asn	
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atc	cag	ttt	tta	aga	cag	aat	gag	atg	gga	aag	agg	taacaaaata	8391
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9729

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<212> PRT

<213> Homo sapiens

<400> 13

Met Asp Val Lys Asp Arg Arg His Arg Ser Leu Thr Arg Gly Arg Cys  
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Gly Lys Glu Cys Arg Tyr Thr Ser Ser Ser Leu Asp Ser Glu Asp Cys  
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Arg Val Pro Thr Gln Lys Ser Tyr Ser Ser Ser Glu Thr Leu Lys Ala  
35 40 45

Tyr Asp His Asp Ser Arg Met His Tyr Gly Asn Arg Val Thr Asp Leu  
50 55 60

Ile His Arg Glu Ser Asp Glu Phe Pro Arg Gln Gly Thr Asn Phe Thr  
65 70 75 80

Leu Ala Glu Leu Gly Ile Cys Glu Pro Ser Pro His Arg Ser Gly Tyr  
85 90 95

Cys Ser Asp Met Gly Ile Leu His Gln Gly Tyr Ser Leu Ser Thr Gly  
100 105 110

Ser Asp Ala Asp Ser Asp Thr Glu Gly Gly Met Ser Pro Glu His Ala  
115 120 125

Ile Arg Leu Trp Gly Arg Gly Ile Lys Ser Arg Arg Ser Ser Gly Leu  
130 135 140

Ser Ser Arg Glu Asn Ser Ala Leu Thr Leu Thr Asp Ser Asp Asn Glu  
145 150 155 160

Asn Lys Ser Asp Asp Glu Asn Gly Arg Pro Ile Pro Pro Thr Ser Ser  
165 170 175

Pro Ser Leu Leu Pro Ser Ala Gln Leu Pro Ser Ser His Asn Pro Pro  
180 185 190

Pro Val Ser Cys Gln Met Pro Leu Leu Asp Ser Asn Thr Ser His Gln  
 195 200 205  
 Ile Met Asp Thr Asn Pro Asp Glu Glu Phe Ser Pro Asn Ser Tyr Leu  
 210 215 220  
 Leu Arg Ala Cys Ser Gly Pro Gln Gln Ala Ser Ser Ser Gly Pro Pro  
 225 230 235 240  
 Asn His His Ser Gln Ser Thr Leu Arg Pro Pro Leu Pro Pro Pro His  
 245 250 255  
 Asn His Thr Leu Ser His His His Ser Ser Ala Asn Ser Leu Asn Arg  
 260 265 270  
 Asn Ser Leu Thr Asn Arg Arg Ser Gln Ile His Ala Pro Ala Pro Ala  
 275 280 285  
 Pro Asn Asp Leu Ala Thr Thr Pro Glu Ser Val Gln Leu Gln Asp Ser  
 290 295 300  
 Trp Val Leu Asn Ser Asn Val Pro Leu Glu Thr Arg His Phe Leu Phe  
 305 310 315 320  
 Lys Thr Ser Ser Gly Ser Thr Pro Leu Phe Ser Ser Ser Ser Pro Gly  
 325 330 335  
 Tyr Pro Leu Thr Ser Gly Thr Val Tyr Thr Pro Pro Pro Arg Leu Leu  
 340 345 350  
 Pro Arg Asn Thr Phe Ser Arg Lys Ala Phe Lys Leu Lys Lys Pro Ser  
 355 360 365  
 Lys Tyr Cys Ser Trp Lys Cys Ala Ala Leu Ser Ala Ile Ala Ala Ala  
 370 375 380  
 Leu Leu Leu Ala Ile Leu Leu Ala Tyr Phe Ile Val Pro Trp Ser Leu  
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 Lys Asn Ser Ser Ile Asp Ser Gly Glu Ala Glu Val Gly Arg Arg Val  
 405 410 415  
 Thr Gln Glu Val Pro Pro Gly Val Phe Trp Arg Ser Gln Ile His Ile  
 420 425 430  
 Ser Gln Pro Gln Phe Leu Lys Phe Asn Ile Ser Leu Gly Lys Asp Ala  
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Leu Phe Gly Val Tyr Ile Arg Arg Gly Leu Pro Pro Ser His Ala Gln  
 450 455 460

Tyr Asp Phe Met Glu Arg Leu Asp Gly Lys Glu Lys Trp Ser Val Val  
 465 470 475 480

Glu Ser Pro Arg Glu Arg Arg Ser Ile Gln Thr Leu Val Gln Asn Glu  
 485 490 495

Ala Val Phe Val Gln Tyr Leu Asp Val Gly Leu Trp His Leu Ala Phe  
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Tyr Asn Asp Gly Lys Asp Lys Glu Met Val Ser Phe Asn Thr Val Val  
 515 520 525

Leu Asp Ser Val Gln Asp Cys Pro Arg Asn Cys His Gly Asn Gly Glu  
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Cys Val Ser Gly Val Cys His Cys Phe Pro Gly Phe Leu Gly Ala Asp  
 545 550 555 560

Cys Ala Lys Ala Ala Cys Pro Val Leu Cys Ser Gly Asn Gly Gln Tyr  
 565 570 575

Ser Lys Gly Thr Cys Gln Cys Tyr Ser Gly Trp Lys Gly Ala Glu Cys  
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Asp Val Pro Met Asn Gln Cys Ile Asp Pro Ser Cys Gly Gly His Gly  
 595 600 605

Ser Cys Ile Asp Gly Asn Cys Val Cys Ser Ala Gly Tyr Lys Gly Glu  
 610 615 620

His Cys Glu Glu Val Asp Cys Leu Asp Pro Thr Cys Ser Ser His Gly  
 625 630 635 640

Val Cys Val Asn Gly Glu Cys Leu Cys Ser Pro Gly Trp Gly Gly Leu  
 645 650 655

Asn Cys Glu Leu Ala Arg Val Gln Cys Pro Asp Gln Cys Ser Gly His  
 660 665 670

Gly Thr Tyr Leu Pro Asp Thr Gly Leu Cys Ser Cys Asp Pro Asn Trp  
 675 680 685

Met Gly Pro Asp Cys Ser Val Glu Val Cys Ser Val Asp Cys Gly Thr  
 690 695 700



Thr Glu Glu Asn Ser Ile Pro Ser Cys Asp Leu Ser Gly Phe Val Arg  
 965 970 975.  
 Pro Asp Pro Ile Ile Ile Ser Ser Pro Leu Ser Thr Phe Phe Ser Ala  
 980 985 990  
 Ala Pro Gly Gln Asn Pro Ile Val Pro Glu Thr Gln Val Leu His Glu  
 995 1000 1005  
 Glu Ile Glu Leu Pro Gly Ser Asn Val Lys Leu Arg Tyr Leu Ser Ser  
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 Arg Thr Ala Gly Tyr Lys Ser Leu Leu Lys Ile Thr Met Thr Gln Ser  
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 Thr Val Pro Leu Asn Leu Ile Arg Val His Leu Met Val Ala Val Glu  
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 Gly His Leu Phe Gln Lys Ser Phe Gln Ala Ser Pro Asn Leu Ala Ser  
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 Leu Ser Asp Ala Val Val Ser Val Gly Phe Glu Tyr Glu Thr Cys Pro  
 1090 1095 1100  
 Ser Leu Ile Leu Trp Glu Lys Arg Thr Ala Leu Leu Gln Gly Phe Glu  
 1105 1110 1115 1120  
 Leu Asp Pro Ser Asn Leu Gly Gly Trp Ser Leu Asp Lys His His Ile  
 1125 1130 1135  
 Leu Asn Val Lys Ser Gly Ile Leu His Lys Gly Thr Gly Glu Asn Gln  
 1140 1145 1150  
 Phe Leu Thr Gln Gln Pro Ala Ile Ile Thr Ser Ile Met Gly Asn Gly  
 1155 1160 1165  
 Arg Arg Arg Ser Ile Ser Cys Pro Ser Cys Asn Gly Leu Ala Glu Gly  
 1170 1175 1180  
 Asn Lys Leu Leu Ala Pro Val Ala Leu Ala Val Gly Ile Asp Gly Ser  
 1185 1190 1195 1200  
 Leu Tyr Val Gly Asp Phe Asn Tyr Ile Arg Arg Ile Phe Pro Ser Arg  
 1205 1210 1215



Asn Val Thr Ser Ile Leu Glu Leu Arg Asn Lys Glu Phe Lys His Ser			
1220	1225	1230	
Asn Asn Pro Ala His Lys Tyr Tyr Leu Ala Val Asp Pro Val Ser Gly			
1235	1240	1245	
Ser Leu Tyr Val Ser Asp Thr Asn Ser Arg Arg Ile Tyr Arg Val Lys			
1250	1255	1260	
Ser Leu Ser Gly Thr Lys Asp Leu Ala Gly Asn Ser Glu Val Val Ala			
1265	1270	1275	1280
Gly Thr Gly Glu Gln Cys Leu Pro Phe Asp Glu Ala Arg Cys Gly Asp			
1285	1290	1295	
Gly Gly Lys Ala Ile Asp Ala Thr Leu Met Ser Pro Arg Gly Ile Ala			
1300	1305	1310	
Val Asp Lys Asn Gly Leu Met Tyr Phe Val Asp Ala Thr Met Ile Arg			
1315	1320	1325	
Lys Val Asp Gln Asn Gly Ile Ile Ser Thr Leu Leu Gly Ser Asn Asp			
1330	1335	1340	
Leu Thr Ala Val Arg Pro Leu Ser Cys Asp Ser Ser Met Asp Val Ala			
1345	1350	1355	1360
Gln Val Arg Leu Glu Trp Pro Thr Asp Leu Ala Val Asn Pro Met Asp			
1365	1370	1375	
Asn Ser Leu Tyr Val Leu Glu Asn Asn Val Ile Leu Arg Ile Thr Glu			
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Asn His Gln Val Ser Ile Ile Ala Gly Arg Pro Met His Cys Gln Val			
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Pro Gly Ile Asp Tyr Ser Leu Ser Lys Leu Ala Ile His Ser Ala Leu			
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Glu Ser Ala Ser Ala Ile Ala Ile Ser His Thr Gly Val Leu Tyr Ile			
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Thr Glu Thr Asp Glu Lys Lys Ile Asn Arg Leu Arg Gln Val Thr Thr			
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Asn Gly Glu Ile Cys Leu Leu Ala Gly Ala Ala Ser Asp Cys Asp Cys			
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Lys Asn Asp Val Asn Cys Asn Cys Tyr Ser Gly Asp Asp Ala Tyr Ala  
 1475 1480 1485

Thr Asp Ala Ile Leu Asn Ser Pro Ser Ser Leu Ala Val Ala Pro Asp  
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Gly Thr Ile Tyr Ile Ala Asp Leu Gly Asn Ile Arg Ile Arg Ala Val  
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Ser Lys Asn Lys Pro Val Leu Asn Ala Phe Asn Gln Tyr Glu Ala Ala  
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Ser Pro Gly Glu Gln Glu Leu Tyr Val Phe Asn Ala Asp Gly Ile His  
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Gln Tyr Thr Val Ser Leu Val Thr Gly Glu Tyr Leu Tyr Asn Phe Thr  
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Tyr Ser Thr Asp Asn Asp Val Thr Glu Leu Ile Asp Asn Asn Gly Asn  
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Ser Leu Lys Ile Arg Arg Asp Ser Ser Gly Met Pro Arg His Leu Leu  
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Asp Gly Asn Thr Gly Leu Leu Ala Thr Lys Ser Asp Glu Thr Gly Trp  
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Thr Thr Phe Tyr Asp Tyr Asp His Glu Gly Arg Leu Thr Asn Val Thr  
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Arg Pro Thr Gly Val Val Thr Ser Leu His Arg Glu Met Glu Lys Ser  
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Ile Thr Ile Asp Ile Glu Asn Ser Asn Arg Asp Asp Asp Val Thr Val  
 1685 1690 1695

Ile Thr Asn Leu Ser Ser Val Glu Ala Ser Tyr Thr Val Val Gln Asp  
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Gln Val Arg Asn Ser Tyr Gln Leu Cys Asn Asn Gly Thr Leu Arg Val  
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Met Tyr Ala Asn Gly Met Gly Ile Ser Phe His Ser Glu Pro His Val			
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Leu Ala Gly Thr Ile Thr Pro Thr Ile Gly Arg Cys Asn Ile Ser Leu			
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Pro Met Glu Asn Gly Leu Asn Ser Ile Glu Trp Arg Leu Arg Lys Glu			
	1765	1770	1775
Gln Ile Lys Gly Lys Val Thr Ile Phe Gly Arg Lys Leu Arg Val His			
	1780	1785	1790
Gly Arg Asn Leu Leu Ser Ile Asp Tyr Asp Arg Asn Ile Arg Thr Glu			
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Lys Ile Tyr Asp Asp His Arg Lys Phe Thr Leu Arg Ile Ile Tyr Asp			
	1810	1815	1820
Gln Val Gly Arg Pro Phe Leu Trp Leu Pro Ser Ser Gly Leu Ala Ala			
1825	1830	1835	1840
Val Asn Val Ser Tyr Phe Phe Asn Gly Arg Leu Ala Gly Leu Gln Arg			
	1845	1850	1855
Gly Ala Met Ser Glu Arg Thr Asp Ile Asp Lys Gln Gly Arg Ile Val			
	1860	1865	1870
Ser Arg Met Phe Ala Asp Gly Lys Val Trp Ser Tyr Ser Tyr Leu Asp			
	1875	1880	1885
Lys Ser Met Val Leu Leu Leu Gln Ser Gln Arg Gln Tyr Ile Phe Glu			
	1890	1895	1900
Tyr Asp Ser Ser Asp Arg Leu Leu Ala Val Thr Met Pro Ser Val Ala			
1905	1910	1915	1920
Arg His Ser Met Ser Thr His Thr Ser Ile Gly Tyr Ile Arg Asn Ile			
	1925	1930	1935
Tyr Asn Pro Pro Glu Ser Asn Ala Ser Val Ile Phe Asp Tyr Ser Asp			
	1940	1945	1950
Asp Gly Arg Ile Leu Lys Thr Ser Phe Leu Gly Thr Gly Arg Gln Val			
	1955	1960	1965
Phe Tyr Lys Tyr Gly Lys Leu Ser Lys Leu Ser Glu Ile Val Tyr Asp			
	1970	1975	1980

Ser Thr Ala Val Thr Phe Gly Tyr Asp Glu Thr Thr Gly Val Leu Lys			
1985	1990	1995	2000
Met Val Asn Leu Gln Ser Gly Gly Phe Ser Cys Thr Ile Arg Tyr Arg			
	2005	2010	2015
Lys Ile Gly Pro Leu Val Asp Lys Gln Ile Tyr Arg Phe Ser Glu Glu			
	2020	2025	2030
Gly Met Val Asn Ala Arg Phe Asp Tyr Thr Tyr His Asp Asn Ser Phe			
	2035	2040	2045
Arg Ile Ala Ser Ile Lys Pro Val Ile Ser Glu Thr Pro Leu Pro Val			
	2050	2055	2060
Asp Leu Tyr Arg Tyr Asp Glu Ile Ser Gly Lys Val Glu His Phe Gly			
2065	2070	2075	2080
Lys Phe Gly Val Ile Tyr Tyr Asp Ile Asn Gln Ile Ile Thr Thr Ala			
	2085	2090	2095
Val Met Thr Leu Ser Lys His Phe Asp Thr His Gly Arg Ile Lys Glu			
	2100	2105	2110
Val Gln Tyr Glu Met Phe Arg Ser Leu Met Tyr Trp Met Thr Val Gln			
	2115	2120	2125
Tyr Asp Ser Met Gly Arg Val Ile Lys Arg Glu Leu Lys Leu Gly Pro			
	2130	2135	2140
Tyr Ala Asn Thr Thr Lys Tyr Thr Tyr Asp Tyr Asp Gly Asp Gly Gln			
2145	2150	2155	2160
Leu Gln Ser Val Ala Val Asn Asp Arg Pro Thr Trp Arg Tyr Ser Tyr			
	2165	2170	2175
Asp Leu Asn Gly Asn Leu His Leu Leu Asn Pro Gly Asn Ser Val Arg			
	2180	2185	2190
Leu Met Pro Leu Arg Tyr Asp Leu Arg Asp Arg Ile Thr Arg Leu Gly			
	2195	2200	2205
Asp Val Gln Tyr Lys Ile Asp Asp Asp Gly Tyr Leu Cys Gln Arg Gly			
	2210	2215	2220
Ser Asp Ile Phe Glu Tyr Asn Ser Lys Gly Leu Leu Thr Arg Ala Tyr			
2225	2230	2235	2240

Asn Lys Ala Ser Gly Trp Ser Val Gln Tyr Arg Tyr Asp Gly Val Gly  
                     2245                    2250                    2255

Arg Arg Ala Ser Tyr Lys Thr Asn Leu Gly His His Leu Gln Tyr Phe  
                     2260                    2265                    2270

Tyr Ser Asp Leu His Asn Pro Thr Arg Ile Thr His Val Tyr Asn His  
                     2275                    2280                    2285

Ser Asn Ser Glu Ile Thr Ser Leu Tyr Tyr Asp Leu Gln Gly His Leu  
                     2290                    2295                    2300

Phe Ala Met Glu Ser Ser Ser Gly Glu Glu Tyr Tyr Val Ala Ser Asp  
                     2305                    2310                    2315                    2320

Asn Thr Gly Thr Pro Leu Ala Val Phe Ser Ile Asn Gly Leu Met Ile  
                     2325                    2330                    2335

Lys Gln Leu Gln Tyr Thr Ala Tyr Gly Glu Ile Tyr Tyr Asp Ser Asn  
                     2340                    2345                    2350

Pro Asp Phe Gln Met Val Ile Gly Phe His Gly Gly Leu Tyr Asp Pro  
                     2355                    2360                    2365

Leu Thr Lys Leu Val His Phe Thr Gln Arg Asp Tyr Asp Val Leu Ala  
                     2370                    2375                    2380

Gly Arg Trp Thr Ser Pro Asp Tyr Thr Met Trp Lys Asn Val Gly Lys  
                     2385                    2390                    2395                    2400

Glu Pro Ala Pro Phe Asn Leu Tyr Met Phe Lys Ser Asn Asn Pro Leu  
                     2405                    2410                    2415

Ser Ser Glu Leu Asp Leu Lys Asn Tyr Val Thr Asp Val Lys Ser Trp  
                     2420                    2425                    2430

Leu Val Met Phe Gly Phe Gln Leu Ser Asn Ile Ile Pro Gly Phe Pro  
                     2435                    2440                    2445

Arg Ala Lys Met Tyr Phe Val Pro Pro Pro Tyr Glu Leu Ser Glu Ser  
                     2450                    2455                    2460

Gln Ala Ser Glu Asn Gly Gln Leu Ile Thr Gly Val Gln Gln Thr Thr  
                     2465                    2470                    2475                    2480

Glu Arg His Asn Gln Ala Phe Met Ala Leu Glu Gly Gln Val Ile Thr  
                     2485                    2490                    2495

Lys Lys Leu His Ala Ser Ile Arg Glu Lys Ala Gly His Trp Phe Ala  
2500 2505 2510

Thr Thr Thr Pro Ile Ile Gly Lys Gly Ile Met Phe Ala Ile Lys Glu  
2515 2520 2525

Gly Arg Val Thr Thr Gly Val Ser Ser Ile Ala Ser Glu Asp Ser Arg  
2530 2535 2540

Lys Val Ala Ser Val Leu Asn Asn Ala Tyr Tyr Leu Asp Lys Met His  
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Tyr Ser Ile Glu Gly Lys Asp Thr His Tyr Phe Val Lys Ile Gly Ser  
2565 2570 2575

Ala Asp Gly Asp Leu Val Thr Leu Gly Thr Thr Ile Gly Arg Lys Val  
2580 2585 2590

Leu Glu Ser Gly Val Asn Val Thr Val Ser Gln Pro Thr Leu Leu Val  
2595 2600 2605

Asn Gly Arg Thr Arg Arg Phe Thr Asn Ile Glu Phe Gln Tyr Ser Thr  
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Leu Leu Leu Ser Ile Arg Tyr Gly Leu Thr Pro Asp Thr Leu Asp Glu  
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Glu Lys Ala Arg Val Leu Asp Gln Ala Arg Gln Arg Ala Leu Gly Thr  
2645 2650 2655

Ala Trp Ala Lys Glu Gln Gln Lys Ala Arg Asp Gly Arg Glu Gly Ser  
2660 2665 2670

Arg Leu Trp Thr Glu Gly Glu Lys Gln Gln Leu Leu Ser Thr Gly Arg  
2675 2680 2685

Val Gln Gly Tyr Glu Gly Tyr Tyr Val Leu Pro Val Glu Gln Tyr Pro  
2690 2695 2700

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2705 2710 2715 2720

Met Gly Lys Arg

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 Met Asn Glu Cys Met Asn  
 1 5

gaa tgg act gat aac cca caa gcc aaa gac ctc cat gac ctg cca ctg 164  
 Glu Trp Thr Asp Asn Pro Gln Ala Lys Asp Leu His Asp Leu Pro Leu  
 10 15 20

ccc tcc ttt cat ttt att ctc acc tct acc aat act aaa tca cct agt 212  
 Pro Ser Phe His Phe Ile Leu Thr Ser Thr Asn Thr Lys Ser Pro Ser  
 25 30 35

tat gta aat acg ata tgc act ttc atg gcc cct tgc ttt gtc ata tgc 260  
 Tyr Val Asn Thr Ile Cys Thr Phe Met Ala Pro Cys Phe Val Ile Cys  
 40 45 50

tgt tcc ctt tgc ctg gaa tat aaa ctc tca aaa tac cat cca cat ttt 308  
 Cys Ser Leu Cys Leu Glu Tyr Lys Leu Ser Lys Tyr His Pro His Phe  
 55 60 65 70

aaa atc ttc tcc aga aag ctt cct ctg tcc acc ccc acc ctc cca ccc 356  
 Lys Ile Phe Ser Arg Lys Leu Pro Leu Ser Thr Pro Thr Leu Pro Pro  
 75 80 85

cca tat aga gta agt cag tct ttc ctt tgt gct aca ttt gta cct gta 404  
 Pro Tyr Arg Val Ser Gln Ser Phe Leu Cys Ala Thr Phe Val Pro Val  
 90 95 100

tct aca gtg gct cta atc aaa ctg cac tgt gtc tct cac ttc cta gat 452  
 Ser Thr Val Ala Leu Ile Lys Leu His Cys Val Ser His Phe Leu Asp  
 105 110 115

tgt gaa ctc ttt gag gct gaa gac tac tta ttc atc tct tta cct cca 500  
 Cys Glu Leu Phe Glu Ala Glu Asp Tyr Leu Phe Ile Ser Leu Pro Pro  
 120 125 130

atg cct agg aca gga cct tca taaagcaact actctataaa tggtgaaaca 551

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 Asn Thr Lys Ser Pro Ser Tyr Val Asn Thr Ile Cys Thr Phe Met Ala  
 35 40 45  
 Pro Cys Phe Val Ile Cys Cys Ser Leu Cys Leu Glu Tyr Lys Leu Ser  
 50 55 60  
 Lys Tyr His Pro His Phe Lys Ile Phe Ser Arg Lys Leu Pro Leu Ser  
 65 70 75 80  
 Thr Pro Thr Leu Pro Pro Pro Tyr Arg Val Ser Gln Ser Phe Leu Cys  
 85 90 95  
 Ala Thr Phe Val Pro Val Ser Thr Val Ala Leu Ile Lys Leu His Cys  
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Gly Lys Tyr Leu Trp Arg Ser Pro His Ser Lys Gly Cys Pro Gly Ala
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Met Trp Trp Leu Leu Leu Trp Gly Val Leu Gln Ala Cys Pro Thr Arg
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ggc tcc gtc ctc ttg gcc caa gag cta ccc cag cag ctg aca tcc ccc 198
Gly Ser Val Leu Leu Ala Gln Glu Leu Pro Gln Gln Leu Thr Ser Pro
      40                               45                               50                               55

ggg tac cca gag ccg tat ggc aaa ggc caa gag agc agc acg gac atc 246
Gly Tyr Pro Glu Pro Tyr Gly Lys Gly Gln Glu Ser Ser Thr Asp Ile
      60                               65                               70

aag gct cca gag ggc ttt gct gtg agg ctc gtc ttc cag gac ttc gac 294
Lys Ala Pro Glu Gly Phe Ala Val Arg Leu Val Phe Gln Asp Phe Asp
      75                               80                               85

ctg gag ccg tcc cag gac tgt gca ggg gac tct gtc aca atc tca ttc 342
Leu Glu Pro Ser Gln Asp Cys Ala Gly Asp Ser Val Thr Ile Ser Phe
      90                               95                               100

gtc ggt tcg gat cca agc cag ttc tgt ggt cag caa ggc tcc cct ctg 390
Val Gly Ser Asp Pro Ser Gln Phe Cys Gly Gln Gln Gly Ser Pro Leu
      105                               110                               115

ggc agg ccc cct ggt cag agg gag ttt gta tcc tca ggg agg agt ttg 438
Gly Arg Pro Pro Gly Gln Arg Glu Phe Val Ser Ser Gly Arg Ser Leu
      120                               125                               130                               135

cgg ctg acc ttc cgc aca cag cct tcc tcg gag aac aag act gcc cac 486
Arg Leu Thr Phe Arg Thr Gln Pro Ser Ser Glu Asn Lys Thr Ala His
      140                               145                               150

ctc cac aag ggc ttc ctg gcc ctc tac caa acc gtg gct gtg aac tat 534
Leu His Lys Gly Phe Leu Ala Leu Tyr Gln Thr Val Ala Val Asn Tyr
      155                               160                               165

agt cag ccc atc agc gag gcc agc agg ggc tct gag gcc atc aac gca 582
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Ser	Gln	Pro	Ile	Ser	Glu	Ala	Ser	Arg	Gly	Ser	Glu	Ala	Ile	Asn	Ala		
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Pro	Gly	Asp	Asn	Pro	Ala	Lys	Val	Gln	Asn	His	Cys	Gln	Glu	Pro	Tyr		
	185					190				195							
tat	cag	gcc	gcg	gca	gca	ggg	gca	ctc	acc	tgt	gca	acc	cca	ggg	acc	678	
Tyr	Gln	Ala	Ala	Ala	Ala	Gly	Ala	Leu	Thr	Cys	Ala	Thr	Pro	Gly	Thr		
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tgg	aaa	gac	aga	cag	gat	ggg	gag	gag	gtt	ctt	cag	tgt	atg	cct	gtc	726	
Trp	Lys	Asp	Arg	Gln	Asp	Gly	Glu	Glu	Val	Leu	Gln	Cys	Met	Pro	Val		
			220					225				230					
tgc	gga	cgg	cca	gtc	acc	ccc	att	gcc	cag	aat	cag	acg	acc	ctc	ggg	774	
Cys	Gly	Arg	Pro	Val	Thr	Pro	Ile	Ala	Gln	Asn	Gln	Thr	Thr	Leu	Gly		
		235						240				245					
tct	tcc	aga	gcc	aag	ctg	ggc	aac	ttc	ccc	tgg	caa	gcc	ttc	acc	agt	822	
Ser	Ser	Arg	Ala	Lys	Leu	Gly	Asn	Phe	Pro	Trp	Gln	Ala	Phe	Thr	Ser		
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atc	cac	ggc	cgt	ggg	ggc	ggg	gcc	ctg	ctg	ggg	gac	aga	tgg	atc	ctc	870	
Ile	His	Gly	Arg	Gly	Gly	Gly	Ala	Leu	Leu	Gly	Asp	Arg	Trp	Ile	Leu		
	265					270				275							
act	gct	gcc	cac	acc	atc	tac	ccc	aag	gac	agt	gtt	tct	ctc	agg	aag	918	
Thr	Ala	Ala	His	Thr	Ile	Tyr	Pro	Lys	Asp	Ser	Val	Ser	Leu	Arg	Lys		
280					285				290					295			
aac	cag	agt	gtg	aat	gtg	ttc	ttg	ggc	cac	aca	gcc	ata	gat	gag	atg	966	
Asn	Gln	Ser	Val	Asn	Val	Phe	Leu	Gly	His	Thr	Ala	Ile	Asp	Glu	Met		
			300					305				310					
ctg	aaa	ctg	ggg	aac	cac	cct	gtc	cac	cgt	gtc	gtt	gtg	cac	ccc	gac	1014	
Leu	Lys	Leu	Gly	Asn	His	Pro	Val	His	Arg	Val	Val	Val	His	Pro	Asp		
			315					320				325					
tac	cgt	cag	aat	gag	tcc	cat	aac	ttt	agc	ggg	gac	atc	gcc	ctc	ctg	1062	
Tyr	Arg	Gln	Asn	Glu	Ser	His	Asn	Phe	Ser	Gly	Asp	Ile	Ala	Leu	Leu		
	330						335				340						
gag	ctg	cag	cac	agc	atc	ccc	ctg	ggc	ccc	aac	gtc	ctc	ccg	gtc	tgt	1110	
Glu	Leu	Gln	His	Ser	Ile	Pro	Leu	Gly	Pro	Asn	Val	Leu	Pro	Val	Cys		
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ctg	ccc	gat	aat	gag	acc	ctc	tac	cgc	agc	ggc	ttg	ttg	ggc	tac	gtc	1158	

Leu Pro Asp Asn Glu Thr Leu Tyr Arg Ser Gly Leu Leu Gly Tyr Val  
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 Ser Gly Phe Gly Met Glu Met Gly Trp Leu Thr Thr Glu Leu Lys Tyr  
 380 385 390  
 tcg agg ctg cct gta gct ccc agg gag gcc tgc aac gcc tgg ctc caa 1254  
 Ser Arg Leu Pro Val Ala Pro Arg Glu Ala Cys Asn Ala Trp Leu Gln  
 395 400 405  
 aag aga cag aga ccc gag gtg ttt tct gac aat atg ttc tgt gtt ggg 1302  
 Lys Arg Gln Arg Pro Glu Val Phe Ser Asp Asn Met Phe Cys Val Gly  
 410 415 420  
 gat gag acg caa agg cac agt gtc tgc cag ggg gac agt ggc agc ctc 1350  
 Asp Glu Thr Gln Arg His Ser Val Cys Gln Gly Asp Ser Gly Ser Leu  
 425 430 435  
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 Tyr Val Val Trp Asp Asn His Ala His His Trp Val Ala Thr Gly Ile  
 440 445 450 455  
 gtg tcc tgg ggc ata ggg tgt ggc gaa ggg tat gac ttc tac acc aag 1446  
 Val Ser Trp Gly Ile Gly Cys Gly Glu Gly Tyr Asp Phe Tyr Thr Lys  
 460 465 470  
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 Val Leu Ser Tyr Val Asp Trp Ile Lys Gly Val Met Asn Gly Lys Asn  
 475 480 485  
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 <212> PRT  
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Pro Gln Gln Leu Thr Ser Pro Gly Tyr Pro Glu Pro Tyr Gly Lys Gly		
50	55	60
Gln Glu Ser Ser Thr Asp Ile Lys Ala Pro Glu Gly Phe Ala Val Arg		
65	70	75
Leu Val Phe Gln Asp Phe Asp Leu Glu Pro Ser Gln Asp Cys Ala Gly		
	85	90
Asp Ser Val Thr Ile Ser Phe Val Gly Ser Asp Pro Ser Gln Phe Cys		
100	105	110
Gly Gln Gln Gly Ser Pro Leu Gly Arg Pro Pro Gly Gln Arg Glu Phe		
115	120	125
Val Ser Ser Gly Arg Ser Leu Arg Leu Thr Phe Arg Thr Gln Pro Ser		
130	135	140
Ser Glu Asn Lys Thr Ala His Leu His Lys Gly Phe Leu Ala Leu Tyr		
145	150	155
Gln Thr Val Ala Val Asn Tyr Ser Gln Pro Ile Ser Glu Ala Ser Arg		
	165	170
Gly Ser Glu Ala Ile Asn Ala Pro Gly Asp Asn Pro Ala Lys Val Gln		
180	185	190
Asn His Cys Gln Glu Pro Tyr Tyr Gln Ala Ala Ala Ala Gly Ala Leu		
195	200	205
Thr Cys Ala Thr Pro Gly Thr Trp Lys Asp Arg Gln Asp Gly Glu Glu		
210	215	220
Val Leu Gln Cys Met Pro Val Cys Gly Arg Pro Val Thr Pro Ile Ala		
225	230	235
Gln Asn Gln Thr Thr Leu Gly Ser Ser Arg Ala Lys Leu Gly Asn Phe		
	245	250
Pro Trp Gln Ala Phe Thr Ser Ile His Gly Arg Gly Gly Gly Ala Leu		
260	265	270
Leu Gly Asp Arg Trp Ile Leu Thr Ala Ala His Thr Ile Tyr Pro Lys		

275	280	285
Asp Ser Val Ser Leu Arg Lys Asn Gln Ser Val Asn Val Phe Leu Gly		
290	295	300
His Thr Ala Ile Asp Glu Met Leu Lys Leu Gly Asn His Pro Val His		
305	310	315 320
Arg Val Val Val His Pro Asp Tyr Arg Gln Asn Glu Ser His Asn Phe		
	325	330 335
Ser Gly Asp Ile Ala Leu Leu Glu Leu Gln His Ser Ile Pro Leu Gly		
	340	345 350
Pro Asn Val Leu Pro Val Cys Leu Pro Asp Asn Glu Thr Leu Tyr Arg		
	355	360 365
Ser Gly Leu Leu Gly Tyr Val Ser Gly Phe Gly Met Glu Met Gly Trp		
	370	375 380
Leu Thr Thr Glu Leu Lys Tyr Ser Arg Leu Pro Val Ala Pro Arg Glu		
	385	390 395 400
Ala Cys Asn Ala Trp Leu Gln Lys Arg Gln Arg Pro Glu Val Phe Ser		
	405	410 415
Asp Asn Met Phe Cys Val Gly Asp Glu Thr Gln Arg His Ser Val Cys		
	420	425 430
Gln Gly Asp Ser Gly Ser Leu Tyr Val Val Trp Asp Asn His Ala His		
	435	440 445
His Trp Val Ala Thr Gly Ile Val Ser Trp Gly Ile Gly Cys Gly Glu		
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Gly Tyr Asp Phe Tyr Thr Lys Val Leu Ser Tyr Val Asp Trp Ile Lys		
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 <212> DNA  
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<400> 18

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<210> 19

<211> 487

<212> PRT

<213> Homo sapiens

<400> 19

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Leu Gln Ala Cys Pro Thr Arg Gly Ser Val Leu Leu Ala Gln Gln Leu
      35                   40                   45

Pro Gln Gln Leu Thr Ser Pro Gly Tyr Pro Glu Pro Tyr Gly Lys Gly
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				80
Leu Val Phe Gln Asp Phe Asp Leu Glu Pro Ser Gln Asp Cys Ala Gly				
	85		90	95
Asp Ser Val Thr Ile Ser Phe Val Gly Ser Asp Pro Ser Gln Phe Cys				
	100		105	110
Gly Gln Gln Gly Ser Pro Leu Gly Arg Pro Pro Gly Gln Arg Glu Phe				
	115		120	125
Val Ser Ser Gly Arg Ser Leu Arg Leu Thr Phe Arg Thr Gln Pro Ser				
	130		135	140
Ser Glu Asn Lys Thr Ala His Leu His Lys Gly Phe Leu Ala Leu Tyr				
145		150		155
				160
Gln Thr Val Ala Val Asn Tyr Ser Gln Pro Ile Ser Glu Ala Ser Arg				
	165		170	175
Gly Ser Glu Ala Ile Asn Ala Pro Gly Asp Asn Pro Ala Lys Val Gln				
	180		185	190
Asn His Cys Gln Glu Pro Tyr Tyr Gln Ala Ala Ala Ala Gly Ala Leu				
	195		200	205
Thr Cys Ala Thr Pro Gly Thr Trp Lys Asp Arg Gln Asp Gly Glu Glu				
	210		215	220
Val Leu Gln Cys Met Pro Val Cys Gly Arg Pro Val Thr Pro Ile Ala				
225		230		235
				240
Gln Asn Gln Thr Thr Leu Gly Ser Ser Arg Ala Lys Leu Gly Asn Phe				
	245		250	255
Pro Trp Gln Ala Phe Thr Ser Ile His Gly Arg Gly Gly Gly Ala Leu				
	260		265	270
Leu Gly Asp Arg Trp Ile Leu Thr Ala Ala His Thr Ile Tyr Pro Lys				
	275		280	285
Asp Ser Val Ser Leu Arg Lys Asn Gln Ser Val Asn Val Phe Leu Gly				
	290		295	300
His Thr Ala Ile Asp Glu Met Leu Lys Leu Gly Asn His Pro Val His				

305		310		315		320
Arg Val Val Val His Pro Asp Tyr Arg Gln Asn Glu Ser His Asn Phe						
	325		330		335	
Ser Gly Asp Ile Ala Leu Leu Glu Leu Gln His Ser Ile Pro Leu Gly						
	340		345		350	
Pro Asn Val Leu Pro Val Cys Leu Pro Asp Asn Glu Thr Leu Tyr Arg						
	355		360		365	
Ser Gly Leu Leu Gly Tyr Val Ser Gly Phe Gly Met Glu Met Gly Trp						
	370		375		380	
Leu Thr Thr Glu Leu Lys Tyr Ser Arg Leu Pro Val Ala Pro Arg Glu						
	385		390		395	400
Ala Cys Asn Ala Trp Leu Gln Lys Arg Gln Arg Pro Glu Val Phe Ser						
	405		410		415	
Asp Asn Met Phe Cys Val Gly Asp Glu Thr Gln Arg His Ser Val Cys						
	420		425		430	
Gln Gly Asp Ser Gly Ser Leu Tyr Val Val Trp Asp Asn His Ala His						
	435		440		445	
His Trp Val Ala Thr Gly Ile Val Ser Trp Gly Ile Gly Cys Gly Glu						
	450		455		460	
Gly Tyr Asp Phe Tyr Thr Lys Val Leu Ser Tyr Val Asp Trp Ile Lys						
	465		470		475	480
Gly Val Met Asn Gly Lys Asn						
	485					

<210> 20  
 <211> 1078  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (243)..(1043)

<400> 20  
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tttgctgtat tagacagaag cacctcattc atatccctgg ggcccctgat ggtgcagtgg 120  
 tctggctgtg gtctgcacac cagctattct gttttgtttt gttttgtttt tttcctacct 180  
 ttttccaatc ctacacctt ctgatcaaca gcccagtag ggtttaaagg tcctagagct 240  
 ac atg gga ttt agg ttt ctg ggc aca gcc aat tct gcc act ttt gag 287  
 Met Gly Phe Arg Phe Leu Gly Thr Ala Asn Ser Ala Thr Phe Glu  
 1 5 10 15  
 act tcc ctt ccc ctt cca ctt gcc cct ctc tgg ttc tct gcc acc agt 335  
 Thr Ser Leu Pro Leu Pro Leu Ala Pro Leu Trp Phe Ser Ala Thr Ser  
 20 25 30  
 cca gaa gaa ctg agt gtc gtg ctg ggg acc aac gac tta act agc cca 383  
 Pro Glu Glu Leu Ser Val Val Leu Gly Thr Asn Asp Leu Thr Ser Pro  
 35 40 45  
 tcc atg gaa ata aag gag gtc gcc agc atc att ctt cac aaa gac ttt 431  
 Ser Met Glu Ile Lys Glu Val Ala Ser Ile Ile Leu His Lys Asp Phe  
 50 55 60  
 aag aga gcc aac atg gac aat gac att gcc ttg ctg ctg ctg gct tcg 479  
 Lys Arg Ala Asn Met Asp Asn Asp Ile Ala Leu Leu Leu Leu Ala Ser  
 65 70 75  
 ccc atc aag ctc gat gac ctg aag gtg ccc atc tgc ctc ccc acg cag 527  
 Pro Ile Lys Leu Asp Asp Leu Lys Val Pro Ile Cys Leu Pro Thr Gln  
 80 85 90 95  
 ccc ggc cct gcc aca tgg cgc gaa tgc tgg gtg gca ggt tgg ggc cag 575  
 Pro Gly Pro Ala Thr Trp Arg Glu Cys Trp Val Ala Gly Trp Gly Gln  
 100 105 110  
 acc aat gct gct gac aaa aac tct gtg aaa acg gat ctg atg aaa gtg 623  
 Thr Asn Ala Ala Asp Lys Asn Ser Val Lys Thr Asp Leu Met Lys Val  
 115 120 125  
 cca atg gtc atc atg gac tgg gag gag tgt tca aag atg ttt cca aaa 671  
 Pro Met Val Ile Met Asp Trp Glu Glu Cys Ser Lys Met Phe Pro Lys  
 130 135 140  
 ctt acc aaa aat atg ctg tgt gcc gga tac aag aat gag agc tat gat 719  
 Leu Thr Lys Asn Met Leu Cys Ala Gly Tyr Lys Asn Glu Ser Tyr Asp  
 145 150 155  
 gcc tgc aag ggt gac agt ggg ggg cct ctg gtc tgc acc cca gag cct 767  
 Ala Cys Lys Gly Asp Ser Gly Gly Pro Leu Val Cys Thr Pro Glu Pro

160	165	170	175	
ggt gag aag tgg tac cag gtg ggc atc atc agc tgg gga aag agc tgt Gly Glu Lys Trp Tyr Gln Val Gly Ile Ile Ser Trp Gly Lys Ser Cys				815
	180	185	190	
gga gat aag aac acc cca ggg ata tac acc tcg ttg gtg aac tac aac Gly Asp Lys Asn Thr Pro Gly Ile Tyr Thr Ser Leu Val Asn Tyr Asn				863
	195	200	205	
ctc tgg atc gag aaa gtg acc cag cta gga ggc agg ccc ttc aat gca Leu Trp Ile Glu Lys Val Thr Gln Leu Gly Gly Arg Pro Phe Asn Ala				911
	210	215	220	
gag aaa agg agg act tct gtc aaa cag aaa cct atg ggc tcc cca gtc Glu Lys Arg Arg Thr Ser Val Lys Gln Lys Pro Met Gly Ser Pro Val				959
	225	230	235	
tcg gga gtc cca gag cca ggc agc ccc aga tcc tgg ctc ctg ctc tgt Ser Gly Val Pro Glu Pro Gly Ser Pro Arg Ser Trp Leu Leu Leu Cys				1007
	240	245	250	255
ccc ctg tcc cat gtg ttg ttc aga gct att ttg tac tgataataaa Pro Leu Ser His Val Leu Phe Arg Ala Ile Leu Tyr				1053
	260	265		
atagaggcta ttctttcaac cgaaa				1078
 <210> 21 <211> 267 <212> PRT <213> Homo sapiens				
 <400> 21 Met Gly Phe Arg Phe Leu Gly Thr Ala Asn Ser Ala Thr Phe Glu Thr 1 5 10 15 Ser Leu Pro Leu Pro Leu Ala Pro Leu Trp Phe Ser Ala Thr Ser Pro 20 25 30 Glu Glu Leu Ser Val Val Leu Gly Thr Asn Asp Leu Thr Ser Pro Ser 35 40 45 Met Glu Ile Lys Glu Val Ala Ser Ile Ile Leu His Lys Asp Phe Lys 50 55 60 Arg Ala Asn Met Asp Asn Asp Ile Ala Leu Leu Leu Leu Ala Ser Pro				

65		70		75		80
Ile Lys Leu Asp Asp Leu Lys Val Pro Ile Cys Leu Pro Thr Gln Pro						
	85		90		95	
Gly Pro Ala Thr Trp Arg Glu Cys Trp Val Ala Gly Trp Gly Gln Thr						
	100		105		110	
Asn Ala Ala Asp Lys Asn Ser Val Lys Thr Asp Leu Met Lys Val Pro						
	115		120		125	
Met Val Ile Met Asp Trp Glu Glu Cys Ser Lys Met Phe Pro Lys Leu						
	130		135		140	
Thr Lys Asn Met Leu Cys Ala Gly Tyr Lys Asn Glu Ser Tyr Asp Ala						
	145		150		155	160
Cys Lys Gly Asp Ser Gly Gly Pro Leu Val Cys Thr Pro Glu Pro Gly						
	165		170		175	
Glu Lys Trp Tyr Gln Val Gly Ile Ile Ser Trp Gly Lys Ser Cys Gly						
	180		185		190	
Asp Lys Asn Thr Pro Gly Ile Tyr Thr Ser Leu Val Asn Tyr Asn Leu						
	195		200		205	
Trp Ile Glu Lys Val Thr Gln Leu Gly Gly Arg Pro Phe Asn Ala Glu						
	210		215		220	
Lys Arg Arg Thr Ser Val Lys Gln Lys Pro Met Gly Ser Pro Val Ser						
	225		230		235	240
Gly Val Pro Glu Pro Gly Ser Pro Arg Ser Trp Leu Leu Leu Cys Pro						
	245		250		255	
Leu Ser His Val Leu Phe Arg Ala Ile Leu Tyr						
	260		265			

<210> 22  
 <211> 1334  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (499)..(1299)

<400> 22

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gattttagaa gggttaatcaa aaacccgggg acagtttctt catggcataa ccacagacct 60

ttgtggcacc cgctgtcgtg ggatatcaaa taccctctgg gggtcggaat gtgggcttat 120

tactgaagat cctgtctgct tggtcagtgg caggtctaga ctaacttctg gtcctgagtt 180

tctaaagtgc tggtagacca gttgatacaa aacagatata ataatgaatg ccttatctat 240

ctgaagggtca gtttgatccg tgccaagtgg ctttttgtgg gctgtgtaga gtgctctaaa 300

cccagctcgg cctttgctgt attagacaga agcacctcat tcatatccct ggggcccctg 360

atgggtgcagt ggtctggctg tggctctgcac accagctatt ctgttttgtt ttgttttgtt 420

ttgttttttc ctaccttttt ccaatcctca caccttctga tcaacagccc cagtaggggt 480

taaaggtoct agagctac atg gga ttt agg ttt ctg ggc aca gcc aat tct 531
          Met Gly Phe Arg Phe Leu Gly Thr Ala Asn Ser
                1             5             10

gcc act ttt gag act tcc ctt ccc ctt cca ctt gcc cct ctc tgg ttc 579
Ala Thr Phe Glu Thr Ser Leu Pro Leu Pro Leu Ala Pro Leu Trp Phe
          15             20             25

tct gcc acc agt cca gaa gaa ctg agt gtc gtg ctg ggg acc aac gac 627
Ser Ala Thr Ser Pro Glu Glu Leu Ser Val Val Leu Gly Thr Asn Asp
          30             35             40

tta act agc cca tcc atg gaa ata aag gag gtc gcc agc atc att ctt 675
Leu Thr Ser Pro Ser Met Glu Ile Lys Glu Val Ala Ser Ile Ile Leu
          45             50             55

cac aaa gac ttt aag aga gcc aac atg gac aat gac att gcc ttg ctg 723
His Lys Asp Phe Lys Arg Ala Asn Met Asp Asn Asp Ile Ala Leu Leu
          60             65             70             75

ctg ctg gct tcg ccc atc aag ctc gat gac ctg aag gtg ccc atc tgc 771
Leu Leu Ala Ser Pro Ile Lys Leu Asp Asp Leu Lys Val Pro Ile Cys
          80             85             90

ctc ccc acg cag ccc ggc cct gcc aca tgg cgc gaa tgc tgg gtg gca 819
Leu Pro Thr Gln Pro Gly Pro Ala Thr Trp Arg Glu Cys Trp Val Ala
          95             100             105

ggg tgg ggc cag acc aat gct gct gac aaa aac tct gtg aaa acg gat 867
Gly Trp Gly Gln Thr Asn Ala Ala Asp Lys Asn Ser Val Lys Thr Asp
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110	115	120	
ctg atg aaa gtg cca atg gtc atc atg gac tgg gag gag tgt tca aag			915
Leu Met Lys Val Pro Met Val Ile Met Asp Trp Glu Glu Cys Ser Lys			
125	130	135	
atg ttt cca aaa ctt acc aaa aat atg ctg tgt gcc gga tac aag aat			963
Met Phe Pro Lys Leu Thr Lys Asn Met Leu Cys Ala Gly Tyr Lys Asn			
140	145	150	155
gag agc tat gat gcc tgc aag ggt gac agt ggg ggg cct ctg gtc tgc			1011
Glu Ser Tyr Asp Ala Cys Lys Gly Asp Ser Gly Gly Pro Leu Val Cys			
160	165	170	
acc cca gag cct ggt gag aag tgg tac cag gtg ggc atc atc agc tgg			1059
Thr Pro Glu Pro Gly Glu Lys Trp Tyr Gln Val Gly Ile Ile Ser Trp			
175	180	185	
gga aag agc tgt gga gag aag aac acc cca ggg ata tac acc tcg ttg			1107
Gly Lys Ser Cys Gly Glu Lys Asn Thr Pro Gly Ile Tyr Thr Ser Leu			
190	195	200	
gtg aac tac aac ctc tgg atc gag aaa gtg acc cag cta gag ggc agg			1155
Val Asn Tyr Asn Leu Trp Ile Glu Lys Val Thr Gln Leu Glu Gly Arg			
205	210	215	
ccc ttc aat gca gag aaa agg agg act tct gtc aaa cag aaa cct atg			1203
Pro Phe Asn Ala Glu Lys Arg Arg Thr Ser Val Lys Gln Lys Pro Met			
220	225	230	235
ggc tcc cca gtc tcg gga gtc cca gag cca ggc agc ccc aga tcc tgg			1251
Gly Ser Pro Val Ser Gly Val Pro Glu Pro Gly Ser Pro Arg Ser Trp			
240	245	250	
ctc ctg ctc tgt ccc ctg tcc cat gtg ttg ttc aga gct att ttg tac			1299
Leu Leu Leu Cys Pro Leu Ser His Val Leu Phe Arg Ala Ile Leu Tyr			
255	260	265	
tgataataaa atagaggcta ttctttcaac cgaaa			1334

<210> 23  
 <211> 267  
 <212> PRT  
 <213> Homo sapiens

<400> 23  
 Met Gly Phe Arg Phe Leu Gly Thr Ala Asn Ser Ala Thr Phe Glu Thr

1	5	10	15
Ser Leu Pro Leu Pro Leu Ala Pro Leu Trp Phe Ser Ala Thr Ser Pro	20	25	30
Glu Glu Leu Ser Val Val Leu Gly Thr Asn Asp Leu Thr Ser Pro Ser	35	40	45
Met Glu Ile Lys Glu Val Ala Ser Ile Ile Leu His Lys Asp Phe Lys	50	55	60
Arg Ala Asn Met Asp Asn Asp Ile Ala Leu Leu Leu Leu Ala Ser Pro	65	70	75
Ile Lys Leu Asp Asp Leu Lys Val Pro Ile Cys Leu Pro Thr Gln Pro	85	90	95
Gly Pro Ala Thr Trp Arg Glu Cys Trp Val Ala Gly Trp Gly Gln Thr	100	105	110
Asn Ala Ala Asp Lys Asn Ser Val Lys Thr Asp Leu Met Lys Val Pro	115	120	125
Met Val Ile Met Asp Trp Glu Glu Cys Ser Lys Met Phe Pro Lys Leu	130	135	140
Thr Lys Asn Met Leu Cys Ala Gly Tyr Lys Asn Glu Ser Tyr Asp Ala	145	150	155
Cys Lys Gly Asp Ser Gly Gly Pro Leu Val Cys Thr Pro Glu Pro Gly	165	170	175
Glu Lys Trp Tyr Gln Val Gly Ile Ile Ser Trp Gly Lys Ser Cys Gly	180	185	190
Glu Lys Asn Thr Pro Gly Ile Tyr Thr Ser Leu Val Asn Tyr Asn Leu	195	200	205
Trp Ile Glu Lys Val Thr Gln Leu Glu Gly Arg Pro Phe Asn Ala Glu	210	215	220
Lys Arg Arg Thr Ser Val Lys Gln Lys Pro Met Gly Ser Pro Val Ser	225	230	235
Gly Val Pro Glu Pro Gly Ser Pro Arg Ser Trp Leu Leu Leu Cys Pro	245	250	255
Leu Ser His Val Leu Phe Arg Ala Ile Leu Tyr			

<210> 24  
 <211> 1498  
 <212> DNA  
 <213> Homo sapiens

<400> 24  
 aggcgcctgg ttctgcgcgt actggctgta cggagcagga gcaagaggtc gccgccagcc 60  
 tccgccgccg agcctcgttc gtgtccccgc ccctcgctcc tgcagctact gctcagaaac 120  
 gctggggcgc ccacctggc agactaacga agcagctccc ttcccacccc aactgcaggc 180  
 ctaattttgg acgctttgcc tgccatttct tccaggttga gggagccgca gaggcggagg 240  
 ctgcgcgtatt cctgcagtca gcacccacgt cgcccccgga cgctcgggtc tcaggccctt 300  
 cgcgagcggg gctctccgtc tgcggctcct tgtgaaggct ctgggcggct gcagaggccg 360  
 gccgtccggg ttggctcacc tctcccagga aacttcacac tggagagcca aaaggagtgg 420  
 aagagcctgt cttggagatt ttcctgggga aatcctgagg tcattcatta tgaagtgtac 480  
 cgcgcggggg tggctcagag taaccacagt gctgttcatt gctagagcaa ttccagccat 540  
 ggtggttccc aatgccactt tattggagaa acttttggaa aaatacatgg atgaggatgg 600  
 tgagtgggtg atagccaaac aacgagggaa aagggccatc acagacaatg acatgcagag 660  
 tattttggac cttcataata aattacgaag tcagggtgat ccaacagcct ctaatatgga 720  
 gtatatgaca tgggatgtag agctggaaaag atctgcagaa tccagggtctg aaattgcttg 780  
 tgggaacatg gacctgcaag cttgcttcca tcaattggac agaatttggg agcacactgg 840  
 ggaagatata ggcccccgac gtttcatgta caatcgtggg atgatgaagt gaaagacttt 900  
 agctacccat atgaacatga atgcaaccca tattgtccat tcagggtgtc tggccctgta 960  
 tgtacacatt atacacaggt cgtgtgggca actagtaaca gaatcgggtt tgccattaat 1020  
 ttgtgtcata acatgaacat ctggggggcag atatggccca aagctgtcta cctggtgtgc 1080  
 aattactccc caaagggaaa ctggtggggc catgccctt acaaacatgg gcggccctgt 1140  
 tctgcttgcc cacctagttt tggagggggc tgtagagaaa atctgtgcta caaagaaggg 1200  
 tcagacagggt attatcccc ctcgagaagag gaaacaaatg aaatagaacg gcagcagtca 1260  
 caagtccatg acacccatgt cgggacaaga tcagatgata gtagcagaaa tgaagtcatt 1320  
 agctttggga aaagtaatga aaatataatg gttttagaaa tcctgtgtta aatattgcta 1380  
 tattttctta gcagttatct ctacagttaa ttacatagtc atgattgttc tacgtttcat 1440  
 atattatatg gtgctttgta tatgccccta ataaaatgaa tctaaacatt gaaaaaaaa 1498

<210> 25  
 <211> 300  
 <212> PRT  
 <213> Homo sapiens

<400> 25  
 Met Lys Cys Thr Ala Arg Glu Trp Leu Arg Val Thr Thr Val Leu Phe  
 1 5 10 15  
 Met Ala Arg Ala Ile Pro Ala Met Val Val Pro Asn Ala Thr Leu Leu  
 20 25 30

Glu Lys Leu Leu Glu Lys Tyr Met Asp Glu Asp Gly Glu Trp Trp Ile  
 35 40 45  
 Ala Lys Gln Arg Gly Lys Arg Ala Ile Thr Asp Asn Asp Met Gln Ser  
 50 55 60  
 Ile Leu Asp Leu His Asn Lys Leu Arg Ser Gln Val Tyr Pro Thr Ala  
 65 70 75 80  
 Ser Asn Met Glu Tyr Met Thr Trp Asp Val Glu Leu Glu Arg Ser Ala  
 85 90 95  
 Glu Ser Arg Ala Glu Ser Cys Leu Trp Glu His Gly Pro Ala Ser Leu  
 100 105 110  
 Leu Pro Ser Ile Gly Gln Asn Leu Gly Ala His Trp Gly Arg Tyr Arg  
 115 120 125  
 Pro Pro Thr Phe His Val Gln Ser Trp Tyr Asp Glu Val Lys Asp Phe  
 130 135 140  
 Ser Tyr Pro Tyr Glu His Glu Cys Asn Pro Tyr Cys Pro Phe Arg Cys  
 145 150 155 160  
 Ser Gly Pro Val Cys Thr His Tyr Thr Gln Val Val Trp Ala Thr Ser  
 165 170 175  
 Asn Arg Ile Gly Cys Ala Ile Asn Leu Cys His Asn Met Asn Ile Trp  
 180 185 190  
 Gly Gln Ile Trp Pro Lys Ala Val Tyr Leu Val Cys Asn Tyr Ser Pro  
 195 200 205  
 Lys Gly Asn Trp Trp Gly His Ala Pro Tyr Lys His Gly Arg Pro Cys  
 210 215 220  
 Ser Ala Cys Pro Pro Ser Phe Gly Gly Gly Cys Arg Glu Asn Leu Cys  
 225 230 235 240  
 Tyr Lys Glu Gly Ser Asp Arg Tyr Tyr Pro Pro Arg Glu Glu Glu Thr  
 245 250 255  
 Asn Glu Ile Glu Arg Gln Gln Ser Gln Val His Asp Thr His Val Arg  
 260 265 270  
 Thr Arg Ser Asp Asp Ser Ser Arg Asn Glu Val Ile Ser Phe Gly Lys  
 275 280 285



Ser Asn Glu Asn Ile Met Val Leu Glu Ile Leu Cys  
 290 295 300

<210> 26  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Ag809 Forward  
 Primer

<400> 26  
 atgtgatctt tggctgtgaa gt 22

<210> 27  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Ag809 Probe  
 Primer

<400> 27  
 ctaccccatg gcctccatcg agt 23

<210> 28  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Ag809 Reverse  
 Primer

<400> 28  
 ggatgtccaa gccatcctt 19

<210> 29  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Ag2773 Forward  
 Primer

<400> 29  
 ccttgctttg tcatatgctg tt 22

<210> 30  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Ag2773 Probe  
 Primer

<400> 30  
 ccctttgcct ggaatataaa ctctca 26

<210> 31  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Ag2773 Reverse  
 Primer

<400> 31  
 agaggaagct ttctggagaa ga 22

<210> 32  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Ag427 Forward  
 Primer

<400> 32  
 gagctacagg cagcctcgag t 21

<210> 33  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Ag427 Probe  
         Primer  
  
 <400> 33  
 tggcccagct gaccctgctc a 21  
  
  
 <210> 34  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Ag427 Reverse  
         Primer  
  
 <400> 34  
 ggctacgtca gtgggtttgg 20  
  
  
 <210> 35  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Ag1541 Forward  
         Primer  
  
 <400> 35  
 agaagaacac cccaggata ta 22  
  
  
 <210> 36  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Ag1541 Probe  
         Primer

<400> 36  
cctcgttggt gaactacaac ctctgg

26

<210> 37  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Ag1541 Reverse  
Primer

<400> 37  
cctctagctg ggtcactttc tc

22

<210> 38  
<211> 270  
<212> PRT  
<213> Mus musculus

<400> 38  
Met Pro Arg Leu Pro Leu Leu Leu Leu Leu Leu Pro Ser Leu Ala Arg  
1 5 10 15  
Gly Leu Gly Leu Arg Asp Ala Gly Arg Arg His Pro Glu Cys Ser Pro  
20 25 30  
Cys Gln Gln Asp Arg Cys Pro Ala Pro Ser Pro Cys Pro Ala Pro Trp  
35 40 45  
Ile Ser Ala Arg Asp Glu Cys Gly Cys Cys Ala Arg Cys Leu Gly Ala  
50 55 60  
Glu Gly Ala Ser Cys Gly Gly Pro Val Gly Ser Arg Cys Gly Pro Gly  
65 70 75 80  
Leu Val Cys Ala Ser Arg Ala Ser Gly Thr Ala Pro Glu Gly Thr Gly  
85 90 95  
Leu Cys Val Cys Ala Gln Arg Gly Ala Val Cys Gly Ser Asp Gly Arg  
100 105 110  
Ser Tyr Ser Ser Ile Cys Ala Leu Arg Leu Arg Ala Arg His Ala Pro  
115 120 125  
Arg Ala His His Gly His Leu His Lys Ala Arg Asp Gly Pro Cys Glu

130		135		140
Phe Ala Pro Val Val Leu Met Pro Pro Arg Asp Ile His Asn Val Thr				
145		150		155
				160
Gly Thr Gln Val Phe Leu Ser Cys Glu Val Lys Ala Val Pro Thr Pro				
	165		170	175
Val Ile Thr Trp Lys Lys Val Lys His Ser Pro Glu Gly Thr Glu Gly				
	180		185	190
Leu Glu Glu Leu Pro Gly Asp His Val Asn Ile Ala Val Gln Val Arg				
	195		200	205
Gly Gly Pro Ser Asp His Glu Thr Thr Ser Trp Ile Leu Ile Asn Pro				
	210		215	220
Leu Arg Lys Glu Asp Glu Gly Val Tyr His Cys His Ala Ala Asn Ala				
	225		230	235
				240
Ile Gly Glu Ala Gln Ser His Gly Thr Val Thr Val Leu Asp Leu Asn				
	245		250	255
Arg Tyr Lys Ser Leu Tyr Ser Ser Val Pro Gly Asp Leu Leu				
	260		265	270

<210> 39  
 <211> 281  
 <212> PRT  
 <213> Mus musculus

<400> 39
Met Glu Arg Pro Pro Arg Ala Leu Leu Leu Gly Ala Ala Gly Leu Leu
1 5 10 15
Leu Leu Leu Leu Pro Leu Ser Ser Ser Ser Ser Ser Asp Ala Cys Gly
20 25 30
Pro Cys Val Pro Ala Ser Cys Pro Ala Leu Pro Arg Leu Gly Cys Pro
35 40 45
Leu Gly Glu Thr Arg Asp Ala Cys Gly Cys Cys Pro Val Cys Ala Arg
50 55 60
Gly Glu Gly Glu Pro Cys Gly Gly Gly Ala Ala Gly Arg Gly His Cys
65 70 75 80

Ala Pro Gly Met Glu Cys Val Lys Ser Arg Lys Arg Arg Arg Gly Lys  
85 90 95

Ala Gly Ala Ala Ala Gly Gly Pro Ala Thr Leu Ala Val Cys Val Cys  
100 105 110

Lys Ser Arg Tyr Pro Val Cys Gly Ser Asn Gly Ile Thr Tyr Pro Ser  
115 120 125

Gly Cys Gln Leu Arg Ala Ala Ser Leu Arg Ala Glu Ser Arg Gly Glu  
130 135 140

Lys Pro Ile Thr Gln Val Ser Lys Gly Thr Cys Glu Gln Gly Pro Ser  
145 150 155 160

Ile Val Thr Pro Pro Lys Asp Ile Trp Asn Val Thr Gly Ala Lys Val  
165 170 175

Phe Leu Ser Cys Glu Val Ile Gly Ile Pro Thr Pro Val Leu Ile Trp  
180 185 190

Asn Lys Val Lys Arg Asp His Ser Gly Val Gln Arg Thr Glu Leu Leu  
195 200 205

Pro Gly Asp Arg Glu Asn Leu Ala Ile Gln Thr Arg Gly Gly Pro Glu  
210 215 220

Lys His Glu Val Thr Gly Trp Val Leu Val Ser Pro Leu Ser Lys Glu  
225 230 235 240

Asp Ala Gly Glu Tyr Glu Cys His Ala Ser Asn Ser Gln Gly Gln Ala  
245 250 255

Ser Ala Ala Ala Lys Ile Thr Val Val Asp Ala Leu His Glu Ile Pro  
260 265 270

Leu Lys Lys Gly Glu Gly Ala Gln Leu  
275 280

<210> 40

<211> 277

<212> PRT

<213> Homo sapiens

<400> 40

Met Glu Arg Ala Ser Leu Arg Ala Leu Leu Phe Gly Pro Ala Gly Leu  
1 5 10 15

Leu Leu Leu Leu Leu Pro Leu Ser Ser Ser Ser Ser Ser Asp Thr Cys  
 20 25 30

Gly Pro Cys Glu Pro Ala Ser Cys Pro Pro Leu Pro Pro Leu Gly Cys  
 35 40 45

Leu Leu Gly Glu Thr Arg Asp Ala Cys Gly Cys Cys Pro Met Cys Ala  
 50 55 60

Arg Gly Glu Gly Glu Pro Cys Gly Gly Gly Gly Ala Gly Arg Gly Tyr  
 65 70 75 80

Cys Ala Pro Gly Met Glu Cys Val Lys Ser Arg Lys Arg Arg Arg Gly  
 85 90 95

Lys Ala Gly Ala Ala Ala Gly Gly Pro Gly Val Ser Gly Val Cys Val  
 100 105 110

Cys Lys Ser Arg Val Pro Val Cys Gly Ser Asp Gly Thr Thr Tyr Pro  
 115 120 125

Ser Gly Cys Gln Leu Arg Ala Ala Ser Gln Arg Ala Glu Ser Arg Gly  
 130 135 140

Glu Lys Ala Ile Thr Gln Val Ser Lys Gly Thr Cys Glu Gln Gly Pro  
 145 150 155 160

Ser Ile Val Thr Pro Pro Lys Asp Ile Trp Asn Val Thr Gly Ala Gln  
 165 170 175

Val Tyr Leu Ser Cys Glu Val Ile Gly Ile Pro Thr Pro Val Leu Ile  
 180 185 190

Trp Asn Lys Val Lys Arg Gly His Tyr Gly Val Gln Arg Thr Glu Leu  
 195 200 205

Leu Pro Gly Asp Arg Asp Asn Leu Ala Ile Gln Thr Arg Gly Gly Pro  
 210 215 220

Glu Lys His Glu Val Thr Gly Trp Val Leu Val Ser Pro Leu Ser Lys  
 225 230 235 240

Glu Asp Ala Gly Glu Tyr Glu Cys His Ala Ser Asn Ser Gln Gly Gln  
 245 250 255

Ala Ser Ala Ser Ala Lys Ile Thr Val Val Asp Ala Leu His Glu Ile  
 260 265 270

Ala Ser Glu Lys Arg  
275

<210> 41  
<211> 281  
<212> PRT  
<213> Mus musculus

<400> 41  
Met Glu Arg Pro Pro Arg Ala Leu Leu Leu Gly Ala Ala Gly Leu Leu  
1 5 10 15  
Leu Leu Leu Leu Pro Leu Ser Ser Ser Ser Ser Ser Asp Ala Cys Gly  
20 25 30  
Pro Cys Val Pro Ala Ser Cys Pro Ala Leu Pro Arg Leu Gly Cys Pro  
35 40 45  
Leu Gly Glu Thr Arg Asp Ala Cys Gly Cys Cys Pro Val Cys Ala Arg  
50 55 60  
Gly Glu Gly Glu Pro Cys Gly Gly Gly Ala Ala Gly Arg Gly His Cys  
65 70 75 80  
Ala Pro Gly Met Glu Cys Val Lys Ser Arg Lys Arg Arg Lys Gly Lys  
85 90 95  
Ala Gly Ala Ala Ala Gly Gly Pro Ala Thr Leu Ala Val Cys Val Cys  
100 105 110  
Lys Ser Arg Tyr Pro Val Cys Gly Ser Asn Gly Ile Thr Tyr Pro Ser  
115 120 125  
Gly Cys Gln Leu Arg Ala Ala Ser Leu Arg Ala Glu Ser Arg Gly Glu  
130 135 140  
Lys Ala Ile Thr Gln Val Ser Lys Gly Thr Cys Glu Gln Gly Pro Ser  
145 150 155 160  
Ile Val Thr Pro Pro Lys Asp Ile Trp Asn Val Thr Gly Ala Lys Val  
165 170 175  
Phe Leu Ser Cys Glu Val Ile Gly Ile Pro Thr Pro Val Leu Ile Trp  
180 185 190  
Asn Lys Val Lys Arg Asp His Ser Gly Val Gln Arg Thr Glu Leu Leu



195	200	205
Pro Gly Asp Arg Glu Asn Leu Ala Ile Gln Thr Arg Gly Gly Pro Glu		
210	215	220
Lys His Glu Val Thr Gly Trp Val Leu Val Ser Pro Leu Ser Lys Glu		
225	230	235
Asp Ala Gly Glu Tyr Glu Cys His Ala Ser Asn Ser Gln Gly Gln Ala		
245	250	255
Ser Ala Ala Ala Lys Ile Thr Val Val Asp Ala Leu His Glu Ile Pro		
260	265	270
Leu Lys Lys Gly Glu Gly Ala Gln Leu		
275	280	

<210> 42  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 42
Met Glu Arg Pro Ser Leu Arg Ala Leu Leu Leu Gly Ala Ala Gly Leu
1 5 10 15
Leu Leu Leu Leu Leu Pro Leu Ser Ser Ser Ser Ser Ser Asp Thr Cys
20 25 30
Gly Pro Cys Glu Pro Ala Ser Cys Pro Pro Leu Pro Pro Leu Gly Cys
35 40 45
Leu Leu Gly Glu Thr Arg Asp Ala Cys Gly Cys Cys Pro Met Cys Ala
50 55 60
Arg Gly Glu Gly Glu Pro Cys Gly Gly Gly Gly Ala Gly Arg Gly Tyr
65 70 75 80
Cys Ala Pro Gly Met Glu Cys Val Lys Ser Arg Lys Arg Arg Lys Gly
85 90 95
Lys Ala Gly Ala Ala Ala Gly Gly Pro Gly Val Ser Gly Val Cys Val
100 105 110
Cys Lys Ser Arg Tyr Pro Val Cys Gly Ser Asp Gly Thr Thr Tyr Pro
115 120 125

Ser Gly Cys Gln Leu Arg Ala Ala Ser Gln Arg Ala Glu Ser Arg Gly  
 130 135 140

Glu Lys Ala Ile Thr Gln Val Ser Lys Gly Thr Cys Glu Gln Gly Pro  
 145 150 155 160

Ser Ile Val Thr Pro Pro Lys Asp Ile Trp Asn Val Thr Gly Ala Gln  
 165 170 175

Val Tyr Leu Ser Cys Glu Val Ile Gly Ile Pro Thr Pro Val Leu Ile  
 180 185 190

Trp Asn Lys Val Lys Arg Gly His Tyr Gly Val Gln Arg Thr Glu Leu  
 195 200 205

Leu Pro Gly Asp Arg Asp Asn Leu Ala Ile Gln Thr Arg Gly Gly Pro  
 210 215 220

Glu Lys His Glu Val Thr Gly Trp Val Leu Val Ser Pro Leu Ser Lys  
 225 230 235 240

Glu Asp Ala Gly Glu Tyr Glu Cys His Ala Ser Asn Ser Gln Gly Gln  
 245 250 255

Ala Ser Ala Ser Ala Lys Ile Thr Val Val Asp Ala Leu His Glu Ile  
 260 265 270

Pro Val Lys Lys Gly Glu Gly Ala Glu Leu  
 275 280

<210> 43

<211> 144

<212> PRT

<213> Rattus norvegicus

<400> 43

Pro Leu Arg Phe Leu Ser Gln Thr Glu Ser Ile Thr Ala Phe Met Gly  
 1 5 10 15

Asp Thr Val Leu Leu Lys Cys Glu Val Ile Gly Asp Pro Met Pro Thr  
 20 25 30

Ile His Trp Gln Lys Asn Gln Gln Asp Leu Thr Pro Asn Pro Gly Asp  
 35 40 45

Ser Arg Val Val Val Pro Pro Trp Phe Leu Asn His Pro Ser Asn Leu  
 50 55 60

Tyr Ala Tyr Glu Ser Met Asp Ile Glu Phe Glu Cys Ala Val Ser Gly  
65 70 75 80

Lys Pro Val Pro Thr Val Asn Trp Met Lys Asn Gly Asp Val Val Val  
85 90 95

Ile Ser Asp Tyr Phe Gln Ile Val Gly Gly Ser Asn Leu Arg Ile Leu  
100 105 110

Gly Val Val Lys Ser Asp Glu Gly Phe Tyr Gln Cys Val Ala Glu Asn  
115 120 125

Glu Ala Gly Asn Ala Gln Ser Ser Ala Gln Leu Ile Val Pro Lys Pro  
130 135 140

<210> 44  
<211> 1502  
<212> PRT  
<213> Homo sapiens

<400> 44  
Met Ala Pro Thr Trp Gly Pro Gly Met Val Ser Val Val Gly Pro Met  
1 5 10 15

Gly Leu Leu Val Val Leu Leu Val Gly Gly Cys Ala Ala Glu Glu Pro  
20 25 30

Pro Arg Phe Ile Lys Glu Pro Lys Asp Gln Ile Gly Val Ser Gly Arg  
35 40 45

Val Ala Ser Phe Val Cys Gln Ala Thr Gly Asp Pro Lys Pro Arg Val  
50 55 60

Thr Trp Asn Lys Lys Gly Lys Lys Val Asn Ser Gln Arg Phe Glu Thr  
65 70 75 80

Ile Glu Phe Asp Glu Ser Ala Gly Ala Val Leu Arg Ile Gln Pro Leu  
85 90 95

Arg Thr Pro Arg Asp Glu Asn Val Tyr Glu Cys Val Ala Gln Asn Ser  
100 105 110

Val Gly Glu Ile Thr Val His Ala Lys Leu Thr Val Leu Arg Glu Asp

115		120		125
Gln Leu Pro Ser Gly Phe Pro Asn Ile Asp Met Gly Pro Gln Leu Lys				
130		135		140
Val Val Glu Arg Thr Arg Thr Ala Thr Met Leu Cys Ala Ala Ser Gly				
145		150		155 160
Asn Pro Asp Pro Glu Ile Thr Trp Phe Lys Asp Phe Leu Pro Val Asp				
	165		170	175
Pro Ser Ala Ser Asn Gly Arg Ile Lys Gln Leu Arg Ser Gly Ala Leu				
	180		185	190
Gln Ile Glu Ser Ser Glu Glu Thr Asp Gln Gly Lys Tyr Glu Cys Val				
195		200		205
Ala Thr Asn Ser Ala Gly Val Arg Tyr Ser Ser Pro Ala Asn Leu Tyr				
210		215		220
Val Arg Val Arg Arg Val Ala Pro Arg Phe Ser Ile Leu Pro Met Ser				
225		230		235 240
His Glu Ile Met Pro Gly Gly Asn Val Asn Ile Thr Cys Val Ala Val				
	245		250	255
Gly Ser Pro Met Pro Tyr Val Lys Trp Met Gln Gly Ala Glu Asp Leu				
	260		265	270
Thr Pro Glu Asp Asp Met Pro Val Gly Arg Asn Val Leu Glu Leu Thr				
	275		280	285
Asp Val Lys Asp Ser Ala Asn Tyr His Pro Cys Val Ala Met Ser Ser				
290		295		300
Leu Gly Val Ile Glu Ala Val Ala Gln Ile Thr Val Lys Ser Leu Pro				
305		310		315 320
Lys Ala Pro Gly Thr Pro Met Val Thr Glu Asn Thr Ala Thr Ser Ile				
	325		330	335
Thr Ile Thr Trp Asp Ser Gly Asn Pro Asp Pro Val Ser Tyr Tyr Val				
	340		345	350
Ile Glu Tyr Lys Ser Lys Ser Gln Asp Gly Pro Tyr Gln Ile Lys Glu				
355		360		365
Asp Ile Thr Thr Thr Arg Tyr Ser Ile Gly Gly Leu Ser Pro Asn Ser				

370		375		380
Glu Tyr Glu Ile Trp Val Ser Ala Val Asn Ser Ile Gly Gln Gly Pro				
385		390		400
Pro Ser Glu Ser Val Val Thr Arg Thr Gly Glu Gln Ala Pro Ala Arg				
	405		410	415
Pro Pro Arg Asn Val Gln Ala Arg Met Leu Ser Ala Thr Thr Met Ile				
	420		425	430
Val Gln Trp Glu Glu Pro Val Glu Pro Asn Gly Leu Ile Arg Gly Tyr				
	435		440	445
Arg Val Tyr Tyr Thr Met Glu Pro Glu His Pro Val Gly Asn Trp Gln				
	450		455	460
Lys His Asn Val Asp Asp Ser Leu Leu Thr Thr Val Gly Ser Leu Leu				
465		470		480
Glu Asp Glu Thr Tyr Thr Val Arg Val Leu Ala Phe Thr Ser Val Gly				
	485		490	495
Asp Gly Pro Leu Ser Asp Pro Ile Gln Val Lys Thr Gln Gln Gly Val				
	500		505	510
Pro Gly Gln Pro Met Asn Leu Arg Ala Glu Ala Arg Ser Glu Thr Ser				
	515		520	525
Ile Thr Leu Ser Trp Ser Pro Pro Arg Gln Glu Ser Ile Ile Lys Tyr				
	530		535	540
Glu Leu Leu Phe Arg Glu Gly Asp His Gly Arg Glu Val Gly Arg Thr				
545		550		560
Phe Asp Pro Thr Thr Ser Tyr Val Val Glu Asp Leu Lys Pro Asn Thr				
	565		570	575
Glu Tyr Ala Phe Arg Leu Ala Ala Arg Ser Pro Gln Gly Leu Gly Ala				
	580		585	590
Phe Thr Pro Val Val Arg Gln Arg Thr Leu Gln Ser Ile Ser Pro Lys				
	595		600	605
Asn Phe Lys Val Lys Met Ile Met Lys Thr Ser Val Leu Leu Ser Trp				
610		615		620
Glu Phe Pro Asp Asn Tyr Asn Ser Pro Thr Pro Tyr Lys Ile Gln Tyr				

625		630		635		640
Asn Gly Leu Thr	Leu Asp Val Asp Gly Arg Thr Thr Lys Lys Leu Ile					
	645		650		655	
Thr His Leu Lys Pro His Thr Phe Tyr Asn Phe Val Leu Thr Asn Arg						
	660		665		670	
Gly Ser Ser Leu Gly Gly Leu Gln Gln Thr Val Thr Ala Trp Thr Ala						
	675		680		685	
Phe Asn Leu Leu Asn Gly Lys Pro Ser Val Ala Pro Lys Pro Asp Ala						
	690		695		700	
Asp Gly Phe Ile Met Val Tyr Leu Pro Asp Gly Gln Ser Pro Val Pro						
705		710		715		720
Val Gln Ser Tyr Phe Ile Val Met Val Pro Leu Arg Lys Ser Arg Gly						
	725		730		735	
Gly Gln Phe Leu Thr Pro Leu Gly Ser Pro Glu Asp Met Asp Leu Glu						
	740		745		750	
Glu Leu Ile Gln Asp Ile Ser Arg Leu Gln Arg Arg Ser Leu Arg His						
	755		760		765	
Ser Arg Gln Leu Glu Val Pro Arg Pro Tyr Ile Ala Ala Arg Phe Ser						
	770		775		780	
Val Leu Pro Pro Thr Phe His Pro Gly Asp Gln Lys Gln Tyr Gly Gly						
785		790		795		800
Phe Asp Asn Arg Gly Leu Glu Pro Gly His Arg Tyr Val Leu Phe Val						
	805		810		815	
Leu Ala Val Leu Gln Lys Ser Glu Pro Thr Phe Ala Ala Ser Pro Phe						
	820		825		830	
Ser Asp Pro Phe Gln Leu Asp Asn Pro Asp Pro Gln Pro Ile Val Asp						
	835		840		845	
Gly Glu Glu Gly Leu Ile Trp Val Ile Gly Pro Val Leu Ala Val Val						
	850		855		860	
Phe Ile Ile Cys Ile Val Ile Ala Ile Leu Leu Tyr Lys Asn Lys Pro						
865		870		875		880
Asp Ser Lys Arg Lys Asp Ser Glu Pro Arg Thr Lys Cys Leu Leu Asn						

885	890	895
Asn Ala Asp Leu Ala Pro His His	Pro Lys Asp Pro Val Glu Met Arg	
900	905	910
Arg Ile Asn Phe Gln Thr Pro Gly Met Leu Ser His Pro Pro Ile Pro		
915	920	925
Ile Ala Asp Met Ala Glu His Thr Glu Arg Leu Lys Ala Asn Asp Ser		
930	935	940
Leu Lys Leu Ser Gln Glu Tyr Glu Ser Ile Asp Pro Gly Gln Gln Phe		
945	950	955
Thr Trp Glu His Ser Asn Leu Glu Val Asn Lys Pro Lys Asn Arg Tyr		
965	970	975
Ala Asn Val Ile Ala Tyr Asp His Ser Arg Val Ile Leu Gln Pro Ile		
980	985	990
Glu Gly Ile Met Gly Ser Asp Tyr Ile Asn Ala Asn Tyr Val Asp Gly		
995	1000	1005
Tyr Arg Arg Gln Asn Ala Tyr Ile Ala Thr Gln Gly Pro Leu Pro Glu		
1010	1015	1020
Thr Phe Gly Asp Phe Trp Arg Met Val Trp Glu Gln Arg Ser Ala Thr		
1025	1030	1035
Ile Val Met Met Thr Arg Leu Glu Glu Lys Ser Arg Ile Lys Cys Asp		
1045	1050	1055
Gln Tyr Trp Pro Asn Arg Gly Thr Glu Thr Tyr Gly Phe Ile Gln Val		
1060	1065	1070
Thr Leu Leu Asp Thr Ile Glu Leu Ala Thr Phe Cys Val Arg Thr Phe		
1075	1080	1085
Ser Leu His Lys Asn Gly Ser Ser Glu Lys Arg Glu Val Arg Gln Phe		
1090	1095	1100
Gln Phe Thr Ala Trp Pro Asp His Gly Val Pro Glu Tyr Pro Thr Pro		
1105	1110	1115
Phe Leu Ala Phe Leu Arg Arg Val Lys Thr Cys Asn Pro Pro Asp Ala		
1125	1130	1135
Gly Pro Ile Val Val His Cys Ser Ala Gly Val Gly Arg Thr Gly Cys		

1140	1145	1150
Phe Ile Val Ile Asp Ala Met Leu Glu Arg Ile Lys Pro Glu Lys Thr		
1155	1160	1165
Val Asp Val Tyr Gly His Val Thr Leu Met Arg Ser Gln Arg Asn Tyr		
1170	1175	1180
Met Val Gln Thr Glu Asp Gln Tyr Ser Phe Ile His Glu Ala Leu Leu		
1185	1190	1195
1200		
Glu Ala Val Gly Cys Gly Asn Thr Glu Val Pro Ala Arg Ser Leu Tyr		
1205	1210	1215
Ala Tyr Ile Gln Lys Leu Ala Gln Val Glu Pro Gly Glu His Val Thr		
1220	1225	1230
Gly Met Glu Leu Glu Phe Lys Arg Leu Ala Asn Ser Lys Ala His Thr		
1235	1240	1245
Ser Arg Phe Ile Ser Ala Asn Leu Pro Cys Lys Lys Phe Lys Asn Arg		
1250	1255	1260
Leu Val Asn Ile Met Pro Tyr Glu Ser Thr Arg Val Cys Leu Gln Pro		
1265	1270	1275
1280		
Ile Arg Gly Val Glu Gly Ser Asp Tyr Ile Asn Ala Ser Phe Ile Asp		
1285	1290	1295
Gly Tyr Arg Gln Gln Lys Ala Tyr Ile Ala Thr Gln Gly Pro Leu Ala		
1300	1305	1310
Glu Thr Thr Glu Asp Phe Trp Arg Met Leu Trp Glu Asn Asn Ser Thr		
1315	1320	1325
Ile Val Val Met Leu Thr Lys Leu Arg Glu Met Gly Arg Glu Lys Cys		
1330	1335	1340
His Gln Tyr Trp Pro Ala Glu Arg Ser Ala Arg Tyr Gln Tyr Phe Val		
1345	1350	1355
1360		
Val Asp Pro Met Ala Glu Tyr Asn Met Pro Gln Tyr Ile Leu Arg Glu		
1365	1370	1375
Phe Lys Val Thr Asp Ala Arg Asp Gly Gln Ser Arg Thr Val Arg Gln		
1380	1385	1390
Phe Gln Phe Thr Asp Trp Pro Glu Gln Gly Val Pro Lys Ser Gly Glu		



1395	1400	1405
Gly Phe Ile Asp Phe Ile Gly Gln Val His Lys Thr Lys Glu Gln Phe		
1410	1415	1420
Gly Gln Asp Gly Pro Ile Ser Val His Cys Ser Ala Gly Val Gly Arg		
1425	1430	1435
Thr Gly Val Phe Ile Thr Leu Ser Ile Val Leu Glu Arg Met Arg Tyr		
1445	1450	1455
Glu Gly Val Val Asp Ile Phe Gln Thr Val Lys Met Leu Arg Thr Gln		
1460	1465	1470
Arg Pro Ala Met Val Gln Thr Glu Asp Glu Tyr Gln Phe Cys Tyr Gln		
1475	1480	1485
Ala Ala Leu Glu Tyr Leu Gly Ser Phe Asp His Tyr Ala Thr		
1490	1495	1500

<210> 45  
 <211> 1948  
 <212> PRT  
 <213> Homo sapiens

<400> 45
Met Ala Pro Thr Trp Gly Pro Gly Met Val Ser Val Val Gly Pro Met
1 5 10 15
Gly Leu Leu Val Val Leu Leu Val Gly Gly Cys Ala Ala Glu Glu Pro
20 25 30
Pro Arg Phe Ile Lys Glu Pro Lys Asp Gln Ile Gly Val Ser Gly Gly
35 40 45
Val Ala Ser Phe Val Cys Gln Ala Thr Gly Asp Pro Lys Pro Arg Val
50 55 60
Thr Trp Asn Lys Lys Gly Lys Lys Val Asn Ser Gln Arg Phe Glu Thr
65 70 75 80
Ile Glu Phe Asp Glu Ser Ala Gly Ala Val Leu Arg Ile Gln Pro Leu
85 90 95
Arg Thr Pro Arg Asp Glu Asn Val Tyr Glu Cys Val Ala Gln Asn Ser
100 105 110

Val	Gly	Glu	Ile	Thr	Val	His	Ala	Lys	Leu	Thr	Val	Leu	Arg	Glu	Asp	115	120	125	
Gln	Leu	Pro	Ser	Gly	Phe	Pro	Asn	Ile	Asp	Met	Gly	Pro	Gln	Leu	Lys	130	135	140	
Val	Val	Glu	Arg	Thr	Arg	Thr	Ala	Thr	Met	Leu	Cys	Ala	Ala	Ser	Gly	145	150	155	160
Asn	Pro	Asp	Pro	Glu	Ile	Thr	Trp	Phe	Lys	Asp	Phe	Leu	Pro	Val	Asp	165	170	175	
Pro	Ser	Ala	Ser	Asn	Gly	Arg	Ile	Lys	Gln	Leu	Arg	Ser	Glu	Thr	Phe	180	185	190	
Glu	Ser	Thr	Pro	Ile	Arg	Gly	Ala	Leu	Gln	Ile	Glu	Ser	Ser	Glu	Glu	195	200	205	
Thr	Asp	Gln	Gly	Lys	Tyr	Glu	Cys	Val	Ala	Thr	Asn	Ser	Ala	Gly	Val	210	215	220	
Arg	Tyr	Ser	Ser	Pro	Ala	Asn	Leu	Tyr	Val	Arg	Glu	Leu	Arg	Glu	Val	225	230	235	240
Arg	Arg	Val	Ala	Pro	Arg	Phe	Ser	Ile	Leu	Pro	Met	Ser	His	Glu	Ile	245	250	255	
Met	Pro	Gly	Gly	Asn	Val	Asn	Ile	Thr	Cys	Val	Ala	Val	Gly	Ser	Pro	260	265	270	
Met	Pro	Tyr	Val	Lys	Trp	Met	Gln	Gly	Ala	Glu	Asp	Leu	Thr	Pro	Glu	275	280	285	
Asp	Asp	Met	Pro	Val	Gly	Arg	Asn	Val	Leu	Glu	Leu	Thr	Asp	Val	Lys	290	295	300	
Asp	Ser	Ala	Asn	Tyr	Thr	Cys	Val	Ala	Met	Ser	Ser	Leu	Gly	Val	Ile	305	310	315	320
Glu	Ala	Val	Ala	Gln	Ile	Thr	Val	Lys	Ser	Leu	Pro	Lys	Ala	Pro	Gly	325	330	335	
Thr	Pro	Met	Val	Thr	Glu	Asn	Thr	Ala	Thr	Ser	Ile	Thr	Ile	Thr	Trp	340	345	350	
Asp	Ser	Gly	Asn	Pro	Asp	Pro	Val	Ser	Tyr	Tyr	Val	Ile	Glu	Tyr	Lys	355	360	365	

Ser Lys Ser Gln Asp Gly Pro Tyr Gln Ile Lys Glu Asp Ile Thr Thr  
 370 375 380

Thr Arg Tyr Ser Ile Gly Gly Leu Ser Pro Asn Ser Glu Tyr Glu Ile  
 385 390 395 400

Trp Val Ser Ala Val Asn Ser Ile Gly Gln Gly Pro Pro Ser Glu Ser  
 405 410 415

Val Val Thr Arg Thr Gly Glu Gln Ala Pro Ala Ser Ala Pro Arg Asn  
 420 425 430

Val Gln Ala Arg Met Leu Ser Ala Thr Thr Met Ile Val Gln Trp Glu  
 435 440 445

Glu Pro Val Glu Pro Asn Gly Leu Ile Arg Gly Tyr Arg Val Tyr Tyr  
 450 455 460

Thr Met Glu Pro Glu His Pro Val Gly Asn Trp Gln Lys His Asn Val  
 465 470 475 480

Asp Asp Ser Leu Leu Thr Thr Val Gly Ser Leu Leu Glu Asp Glu Thr  
 485 490 495

Tyr Thr Val Arg Val Leu Ala Phe Thr Ser Val Gly Asp Gly Pro Leu  
 500 505 510

Ser Asp Pro Ile Gln Val Lys Thr Gln Gln Gly Val Pro Gly Gln Pro  
 515 520 525

Met Asn Leu Arg Ala Glu Ala Arg Ser Glu Thr Ser Ile Thr Leu Ser  
 530 535 540

Trp Ser Pro Pro Arg Gln Glu Ser Ile Ile Lys Tyr Glu Leu Leu Phe  
 545 550 555 560

Arg Glu Gly Asp His Gly Arg Glu Val Gly Arg Thr Phe Asp Pro Thr  
 565 570 575

Thr Ser Tyr Val Val Glu Asp Leu Lys Pro Asn Thr Glu Tyr Ala Phe  
 580 585 590

Arg Leu Ala Ala Arg Ser Pro Gln Gly Leu Gly Ala Phe Thr Pro Val  
 595 600 605

Val Arg Gln Arg Thr Leu Gln Ser Lys Pro Ser Ala Pro Pro Gln Asp  
 610 615 620

Val	Lys	Cys	Val	Ser	Val	Arg	Ser	Thr	Ala	Ile	Leu	Val	Ser	Trp	Arg	
625					630					635						640
Pro	Pro	Pro	Pro	Glu	Thr	His	Asn	Gly	Ala	Leu	Val	Gly	Tyr	Ser	Val	
				645					650					655		
Arg	Tyr	Arg	Pro	Leu	Gly	Ser	Glu	Asp	Pro	Glu	Pro	Lys	Glu	Val	Asn	
			660					665						670		
Gly	Ile	Pro	Pro	Thr	Thr	Thr	Gln	Ile	Leu	Leu	Glu	Ala	Leu	Glu	Lys	
		675					680						685			
Trp	Thr	Gln	Tyr	Arg	Ile	Thr	Thr	Val	Ala	His	Thr	Glu	Val	Gly	Pro	
	690					695					700					
Gly	Pro	Glu	Ser	Ser	Pro	Val	Val	Val	Arg	Thr	Asp	Glu	Asp	Val	Pro	
705					710					715					720	
Ser	Ala	Pro	Pro	Arg	Lys	Val	Glu	Ala	Glu	Ala	Leu	Asn	Ala	Thr	Ala	
				725					730					735		
Ile	Arg	Val	Leu	Trp	Leu	Gly	Pro	Val	Pro	Gly	Arg	Gln	His	Gly	Gln	
		740						745					750			
Ile	Arg	Gly	Tyr	Gln	Val	His	Tyr	Val	Arg	Met	Glu	Gly	Ala	Glu	Gly	
	755						760					765				
Arg	Gly	Pro	Pro	Arg	Ile	Lys	Asp	Val	Met	Leu	Ala	Asp	Ala	Gln	Trp	
	770					775					780					
Glu	Thr	Asp	Asp	Thr	Ala	Glu	Tyr	Glu	Met	Val	Ile	Thr	Asn	Leu	Gln	
785					790					795				800		
Pro	Glu	Thr	Ala	Tyr	Ser	Ile	Thr	Val	Ala	Ala	Tyr	Thr	Met	Lys	Gly	
			805						810					815		
Asp	Gly	Ala	Arg	Ser	Lys	Pro	Lys	Val	Val	Val	Thr	Lys	Gly	Ala	Val	
			820					825					830			
Leu	Gly	Arg	Pro	Thr	Leu	Ser	Val	Gln	Gln	Thr	Pro	Glu	Gly	Ser	Leu	
		835					840					845				
Leu	Ala	Arg	Trp	Glu	Pro	Pro	Ala	Gly	Thr	Ala	Glu	Asp	Gln	Val	Leu	
	850					855					860					
Gly	Tyr	Arg	Leu	Gln	Phe	Gly	Arg	Glu	Asp	Ser	Thr	Pro	Leu	Ala	Thr	
865				870					875					880		

Leu Glu Phe Pro Pro Ser Glu Asp Arg Tyr Thr Ala Ser Gly Val His  
 885 890 895

Lys Gly Ala Thr Tyr Val Phe Arg Leu Ala Ala Arg Ser Arg Gly Gly  
 900 905 910

Leu Gly Glu Glu Ala Ala Glu Val Leu Ser Ile Pro Glu Asp Thr Pro  
 915 920 925

Arg Gly His Pro Gln Ile Leu Glu Ala Ala Gly Asn Ala Ser Ala Gly  
 930 935 940

Thr Val Leu Leu Arg Trp Leu Pro Pro Val Pro Ala Glu Arg Asn Gly  
 945 950 955 960

Ala Ile Val Lys Tyr Thr Val Ala Val Arg Glu Ala Gly Ala Leu Gly  
 965 970 975

Pro Ala Arg Glu Thr Glu Leu Pro Ala Ala Ala Glu Pro Gly Ala Glu  
 980 985 990

Asn Ala Val Thr Leu Gln Gly Leu Lys Pro Asp Thr Ala Tyr Asp Leu  
 995 1000 1005

Gln Val Arg Ala His Thr Arg Arg Gly Pro Gly Pro Phe Ser Pro Pro  
 1010 1015 1020

Val Arg Tyr Arg Thr Phe Leu Arg Asp Gln Val Ser Pro Lys Asn Phe  
 1025 1030 1035 1040

Lys Val Lys Met Ile Met Lys Thr Ser Val Leu Leu Ser Trp Glu Phe  
 1045 1050 1055

Pro Asp Asn Tyr Asn Ser Pro Thr Pro Tyr Lys Ile Gln Tyr Asn Gly  
 1060 1065 1070

Leu Thr Leu Asp Val Asp Gly Arg Thr Thr Lys Lys Leu Ile Thr His  
 1075 1080 1085

Leu Lys Pro His Thr Phe Tyr Asn Phe Val Leu Thr Asn Arg Gly Ser  
 1090 1095 1100

Ser Leu Gly Gly Leu Gln Gln Thr Val Thr Ala Trp Thr Ala Phe Asn  
 1105 1110 1115 1120

Leu Leu Asn Gly Lys Pro Ser Val Ala Pro Lys Pro Asp Ala Asp Gly  
 1125 1130 1135

Phe Ile Met Val Tyr Leu Pro Asp Gly Gln Ser Pro Val Pro Val Gln  
1140 1145 1150

Ser Tyr Phe Ile Val Met Val Pro Leu Arg Lys Ser Arg Gly Gly Gln  
1155 1160 1165

Phe Leu Thr Pro Leu Gly Ser Pro Glu Asp Met Asp Leu Glu Glu Leu  
1170 1175 1180

Ile Gln Asp Ile Ser Arg Leu Gln Arg Arg Thr Val Arg His Ser Arg  
1185 1190 1195 1200

Gln Leu Glu Val Pro Arg Pro Tyr Ile Ala Ala Arg Phe Ser Val Leu  
1205 1210 1215

Pro Pro Thr Phe His Pro Gly Asp Gln Lys Gln Tyr Gly Gly Phe Asp  
1220 1225 1230

Asn Arg Gly Leu Glu Pro Gly His Arg Tyr Val Leu Phe Val Leu Ala  
1235 1240 1245

Val Leu Gln Lys Ser Glu Pro Thr Phe Ala Ala Ser Pro Phe Ser Asp  
1250 1255 1260

Pro Phe Gln Leu Asp Asn Pro Asp Pro Gln Pro Ile Val Asp Gly Glu  
1265 1270 1275 1280

Glu Gly Leu Ile Trp Val Ile Gly Pro Val Leu Ala Val Val Phe Ile  
1285 1290 1295

Ile Cys Ile Val Ile Ala Ile Leu Leu Tyr Lys Asn Lys Pro Asp Ser  
1300 1305 1310

Lys Arg Lys Asp Ser Glu Pro Arg Thr Lys Cys Leu Leu Asn Asn Ala  
1315 1320 1325

Asp Leu Ala Pro His His Pro Lys Asp Pro Val Glu Met Arg Arg Ile  
1330 1335 1340

Asn Phe Gln Thr Pro Asp Ser Gly Leu Arg Ser Pro Leu Arg Glu Pro  
1345 1350 1355 1360

Gly Phe His Phe Glu Ser Met Leu Ser His Pro Pro Ile Pro Ile Ala  
1365 1370 1375

Asp Met Ala Glu His Thr Glu Arg Leu Lys Ala Asn Asp Ser Leu Lys  
1380 1385 1390

Leu Ser Gln Glu Tyr Glu Ser Ile Asp Pro Gly Gln Gln Phe Thr Trp			
1395	1400	1405	
Glu His Ser Asn Leu Glu Val Asn Lys Pro Lys Asn Arg Tyr Ala Asn			
1410	1415	1420	
Val Ile Ala Tyr Asp His Phe Arg Val Ile Leu Gln Pro Ile Glu Gly			
1425	1430	1435	1440
Ile Met Gly Ser Asp Tyr Ile Asn Ala Asn Tyr Val Asp Gly Tyr Arg			
	1445	1450	1455
Arg Gln Asn Ala Tyr Ile Ala Thr Gln Gly Pro Leu Pro Glu Thr Phe			
	1460	1465	1470
Gly Asp Phe Trp Arg Met Val Trp Glu Gln Arg Ser Ala Thr Ile Val			
	1475	1480	1485
Met Met Thr Arg Leu Glu Glu Lys Ser Arg Ile Lys Cys Asp Gln Tyr			
	1490	1495	1500
Trp Pro Asn Arg Gly Thr Glu Thr Tyr Gly Phe Ile Gln Val Thr Leu			
1505	1510	1515	1520
Leu Asp Thr Ile Glu Leu Ala Thr Phe Cys Val Arg Thr Phe Ser Leu			
	1525	1530	1535
His Lys Asn Gly Ser Ser Glu Lys Arg Glu Val Arg Gln Phe Gln Phe			
	1540	1545	1550
Thr Ala Trp Pro Asp His Gly Val Pro Glu Tyr Pro Thr Pro Phe Leu			
	1555	1560	1565
Ala Phe Leu Arg Arg Val Lys Thr Cys Asn Pro Pro Asp Ala Gly Pro			
	1570	1575	1580
Ile Val Val His Cys Ser Ala Gly Val Gly Arg Thr Gly Cys Phe Ile			
1585	1590	1595	1600
Val Ile Asp Ala Met Leu Glu Arg Ile Lys Pro Glu Lys Thr Val Asp			
	1605	1610	1615
Val Tyr Gly His Val Thr Leu Met Arg Ser Gln Arg Asn Tyr Met Val			
	1620	1625	1630
Gln Thr Glu Asp Gln Tyr Ser Phe Ile His Glu Ala Leu Leu Glu Ala			
	1635	1640	1645

Val Gly Cys Gly Asn Thr Glu Val Pro Ala Arg Ser Leu Tyr Ala Tyr			
1650	1655	1660	
Ile Gln Lys Leu Ala Gln Val Glu Pro Gly Glu His Val Thr Gly Met			
1665	1670	1675	1680
Glu Leu Glu Phe Lys Arg Leu Ala Asn Ser Lys Ala His Thr Ser Arg			
1685	1690	1695	
Phe Ile Ser Ala Asn Leu Pro Cys Asn Lys Phe Lys Asn Arg Leu Val			
1700	1705	1710	
Asn Ile Met Pro Tyr Glu Ser Thr Arg Val Cys Leu Gln Pro Ile Arg			
1715	1720	1725	
Gly Val Glu Gly Ser Asp Tyr Ile Asn Ala Ser Phe Ile Asp Gly Tyr			
1730	1735	1740	
Arg Gln Gln Lys Ala Tyr Ile Ala Thr Gln Gly Pro Leu Ala Glu Thr			
1745	1750	1755	1760
Thr Glu Asp Phe Trp Arg Met Leu Trp Glu Asn Asn Ser Thr Ile Val			
1765	1770	1775	
Val Met Leu Thr Lys Leu Arg Glu Met Gly Arg Glu Lys Cys His Gln			
1780	1785	1790	
Tyr Trp Pro Ala Glu Arg Ser Ala Arg Tyr Gln Tyr Phe Val Val Asp			
1795	1800	1805	
Pro Met Ala Glu Tyr Asn Met Pro Gln Tyr Ile Leu Arg Glu Phe Lys			
1810	1815	1820	
Val Thr Asp Ala Arg Asp Gly Gln Ser Arg Thr Val Arg Gln Phe Gln			
1825	1830	1835	1840
Phe Thr Asp Trp Pro Glu Gln Gly Val Pro Lys Ser Gly Glu Gly Phe			
1845	1850	1855	
Ile Asp Phe Ile Gly Gln Val His Lys Thr Lys Glu Gln Phe Gly Gln			
1860	1865	1870	
Asp Gly Pro Ile Ser Val His Cys Ser Ala Gly Val Gly Arg Thr Gly			
1875	1880	1885	
Val Phe Ile Thr Leu Ser Ile Val Leu Glu Arg Met Arg Tyr Glu Gly			
1890	1895	1900	



Val Val Asp Ile Phe Gln Thr Val Lys Met Leu Arg Thr Gln Arg Pro  
 1905 1910 1915 1920

Ala Met Val Gln Thr Glu Asp Glu Tyr Gln Phe Cys Tyr Gln Ala Ala  
 1925 1930 1935

Leu Glu Tyr Leu Gly Ser Phe Asp His Tyr Ala Thr  
 1940 1945

<210> 46  
 <211> 4719  
 <212> DNA  
 <213> Homo sapiens

<400> 46  
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 atggcaatgg ccacctcagc agctccgaac tggctcagca tgtgctgaag aagcaggacc 180  
 tggatgaaga ctacttgggt tgctcaccag gtgacctcct ccgatttgac gattacaaca 240  
 gtgacagctc cctgaccctc cgcgagttct acatggcctt ccaagtgggt cagctcagcc 300  
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 tgaacttctt ggacttggaa gacatcaatg actttggaga ggatgattcc ctgtacatca 480  
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 tgttccagac ccacgtcctg caggtgaatg tgccgccagt catccgtgtc tatccagaga 600  
 gccaggcaca ggagcctgga gtggcagcca gcctaagatg ccatgctgag ggcattccca 660  
 tgcccagaat cacttggctg aaaaacggcg tggatgtctc aactcagatg tccaaacagc 720  
 tctccctttt agccaatggg agcgaactcc acatcagcag tggttcggtat gaagacacag 780  
 gggcatacac ctgcattgcc aaaaatgaag tgggtgtgga tgaagatatc tcctcgctct 840  
 tcattgaaga ctcagctaga aagacccttg caaacatcct gtggcgagag gaaggcctca 900  
 gcgtgggaaa catgttctat gtcttctccg acgacggtat catcgatc catcctgtgg 960  
 actgtgagat ccagaggcac ctcaaaccga cggaaaagat tttcatgagc tatgaagaaa 1020  
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 tccggaaccg gtacatctat gtggcccagc cagcactgag cagagtcctt gtggtcgaca 1140  
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 atgacaagtc acatgaccaa gtgtgggtcc tgagctgggg ggacgtgcac aagtcgccgac 1260  
 caagtctcca ggtgatcaca gaagccagca ccggccagag ccagcacctc atccgcacac 1320  
 cctttgcagg agtggatgat ttcttcattc cccaacaaa cctcatcatc aaccacatca 1380  
 ggtttggctt catcttcaac aagtctgac ctgcagtcca caaggaggac ctggaaacaa 1440  
 tgatgcccc caagaccatc ggccctgcacc accatggctg cgtgccccag gccatggcac 1500  
 acaccacact gggcggttac ttcttcattc agtgccgaca ggacagcccc gcctctgctg 1560  
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 acaacatcta cgcggctctg cacacggagc cggacctgct gttcctggag ctgtccacgg 1860  
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cccgagagtc	actgttcctc	atcaatggga	gacaaaacac	gctgcggtgt	gaggtgtcag	2040
gtataaaggg	ggggaccaca	gtgggtgtggg	tgggtgaggt	atgaagggcc	cagagcagag	2100
ccttgggcca	aggaacaccc	cctagtcctg	acactgcagc	ctcaagcagg	tacgctgtac	2160
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caagtttcct	agtataaggt	atgcgctgct	accaagattg	gggttttttc	gttaggaagt	2280
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ctgtagcaag	cccagccggt	aatcctccta	atgaacccac	aagggtcaatt	cacaactgat	4620
atcttagcta	ttaaagaagt	actgacttta	ccaaaagaat	catcaagaaa	gctatttata	4680
taaacccct	cagtcatttt	gaaataaaat	taattttac			4719

<210> 47  
 <211> 850  
 <212> PRT  
 <213> Homo sapiens

<400> 47  
 Lys Ala Ile Arg Met Phe Lys Cys Trp Ser Val Val Leu Val Leu Gly  
           1                  5                  10                  15  
 Phe Ile Phe Leu Glu Ser Glu Gly Arg Pro Thr Lys Glu Gly Gly Tyr  
                   20                  25                  30  
 Gly Leu Lys Ser Tyr Gln Pro Leu Met Arg Leu Arg His Lys Glu Lys  
           35                  40                  45  
 Asn Gln Glu Ser Ser Arg Val Lys Gly Phe Met Ile Gln Asp Gly Pro  
           50                  55                  60  
 Phe Gly Ser Cys Glu Asn Lys Tyr Cys Gly Leu Gly Arg His Cys Val  
           65                  70                  75                  80  
 Thr Ser Arg Glu Thr Gly Gln Ala Glu Cys Ala Cys Met Asp Leu Cys  
                   85                  90                  95  
 Lys Arg His Tyr Lys Pro Val Cys Gly Ser Asp Gly Glu Phe Tyr Glu  
           100                  105                  110  
 Asn His Cys Glu Val His Arg Ala Ala Cys Leu Lys Lys Gln Lys Ile  
           115                  120                  125  
 Thr Ile Val His Asn Glu Asp Cys Phe Phe Lys Gly Asp Lys Cys Lys  
           130                  135                  140  
 Thr Thr Glu Tyr Ser Lys Met Lys Asn Met Leu Leu Asp Leu Gln Asn  
           145                  150                  155                  160  
 Gln Lys Tyr Ile Met Gln Glu Asn Glu Asn Pro Asn Gly Asp Asp Ile  
                   165                  170                  175  
 Ser Arg Lys Lys Leu Leu Val Asp Gln Met Phe Lys Tyr Phe Asp Ala  
           180                  185                  190  
 Asp Ser Asn Gly Leu Val Asp Ile Asn Glu Leu Thr Gln Val Ile Lys  
           195                  200                  205  
 Gln Glu Glu Leu Gly Lys Asp Leu Phe Asp Cys Thr Leu Tyr Val Leu  
           210                  215                  220

Leu Lys Tyr Asp Asp Phe Asn Ala Asp Lys His Leu Ala Leu Glu Glu  
 225 230 235 240  
 Phe Tyr Arg Ala Phe Gln Val Ile Gln Leu Ser Leu Pro Glu Asp Gln  
 245 250 255  
 Lys Leu Ser Ile Thr Ala Ala Thr Val Gly Gln Ser Ala Val Leu Ser  
 260 265 270  
 Cys Ala Ile Gln Gly Thr Leu Arg Pro Pro Ile Ile Trp Lys Arg Asn  
 275 280 285  
 Asn Ile Ile Leu Asn Asn Leu Asp Leu Glu Asp Ile Asn Asp Phe Gly  
 290 295 300  
 Asp Asp Gly Ser Leu Tyr Ile Thr Lys Val Thr Thr Thr His Val Gly  
 305 310 315 320  
 Asn Tyr Thr Cys Tyr Ala Asp Gly Tyr Glu Gln Val Tyr Gln Thr His  
 325 330 335  
 Ile Phe Gln Val Asn Val Pro Pro Val Ile Arg Val Tyr Pro Glu Ser  
 340 345 350  
 Gln Ala Arg Glu Pro Gly Val Thr Ala Ser Leu Arg Cys His Ala Glu  
 355 360 365  
 Gly Ile Pro Lys Pro Gln Leu Gly Trp Leu Lys Asn Gly Ile Asp Ile  
 370 375 380  
 Thr Pro Lys Leu Ser Lys Gln Leu Thr Leu Gln Ala Asn Gly Ser Glu  
 385 390 395 400  
 Val His Ile Ser Asn Val Arg Tyr Glu Asp Thr Gly Ala Tyr Thr Cys  
 405 410 415  
 Ile Ala Lys Asn Glu Ala Gly Val Asp Glu Asp Ile Ser Ser Leu Phe  
 420 425 430  
 Val Glu Asp Ser Ala Arg Lys Thr Leu Ala Asn Ile Leu Trp Arg Glu  
 435 440 445  
 Glu Gly Leu Gly Ile Gly Asn Met Phe Tyr Val Phe Tyr Glu Asp Gly  
 450 455 460  
 Ile Lys Val Ile Gln Pro Ile Glu Cys Glu Phe Gln Arg His Ile Lys  
 465 470 475 480

Pro	Ser	Glu	Lys	Leu	Leu	Gly	Phe	Gln	Asp	Glu	Val	Cys	Pro	Lys	Ala	485	490	495
Glu	Gly	Asp	Glu	Val	Gln	Arg	Cys	Val	Trp	Ala	Ser	Ala	Val	Asn	Val	500	505	510
Lys	Asp	Lys	Phe	Ile	Tyr	Val	Ala	Gln	Pro	Thr	Leu	Asp	Arg	Val	Leu	515	520	525
Ile	Val	Asp	Val	Gln	Ser	Gln	Lys	Val	Val	Gln	Ala	Val	Ser	Thr	Asp	530	535	540
Pro	Val	Pro	Val	Lys	Leu	His	Tyr	Asp	Lys	Ser	His	Asp	Gln	Val	Trp	545	550	555
Val	Leu	Ser	Trp	Gly	Thr	Leu	Glu	Lys	Thr	Ser	Pro	Thr	Leu	Gln	Val	565	570	575
Ile	Thr	Leu	Ala	Ser	Gly	Asn	Val	Pro	His	His	Thr	Ile	His	Thr	Gln	580	585	590
Pro	Val	Gly	Lys	Gln	Phe	Asp	Arg	Val	Asp	Asp	Phe	Phe	Ile	Pro	Thr	595	600	605
Thr	Thr	Leu	Ile	Ile	Thr	His	Met	Arg	Phe	Gly	Phe	Ile	Leu	His	Lys	610	615	620
Asp	Glu	Ala	Ala	Leu	Gln	Lys	Ile	Asp	Leu	Glu	Thr	Met	Ser	Tyr	Ile	625	630	635
Lys	Thr	Ile	Asn	Leu	Lys	Asp	Tyr	Lys	Cys	Val	Pro	Gln	Ser	Leu	Ala	645	650	655
Tyr	Thr	His	Leu	Gly	Gly	Tyr	Tyr	Phe	Ile	Gly	Cys	Lys	Pro	Asp	Ser	660	665	670
Thr	Gly	Ala	Val	Ser	Pro	Gln	Val	Met	Val	Asp	Gly	Val	Thr	Asp	Ser	675	680	685
Val	Ile	Gly	Phe	Asn	Ser	Asp	Val	Thr	Gly	Thr	Pro	Tyr	Val	Ser	Pro	690	695	700
Asp	Gly	His	Tyr	Leu	Val	Ser	Ile	Asn	Asp	Val	Lys	Gly	Leu	Val	Arg	705	710	715
Val	Gln	Tyr	Ile	Thr	Ile	Arg	Gly	Glu	Ile	Gln	Glu	Ala	Phe	Asp	Ile	725	730	735

Tyr Thr Asn Leu His Ile Ser Asp Leu Ala Phe Gln Pro Ser Phe Thr  
740 745 750

Glu Ala His Gln Tyr Asn Ile Tyr Gly Ser Ser Ser Thr Gln Thr Asp  
755 760 765

Val Leu Phe Val Glu Leu Ser Ser Gly Lys Val Lys Met Ile Lys Ser  
770 775 780

Leu Lys Glu Pro Leu Lys Ala Glu Glu Trp Pro Trp Asn Arg Lys Asn  
785 790 795 800

Arg Gln Ile Gln Asp Ser Gly Leu Phe Gly Gln Tyr Leu Met Thr Pro  
805 810 815

Ser Lys Asp Ser Leu Phe Ile Leu Asp Gly Arg Leu Asn Lys Leu Asn  
820 825 830

Cys Glu Ile Thr Glu Val Glu Lys Gly Asn Thr Val Ile Trp Val Gly  
835 840 845

Asp Ala  
850

<210> 48  
<211> 693  
<212> PRT  
<213> Homo sapiens

<400> 48  
Asn Val Leu Leu Ala Leu Gln Thr Arg Leu Gln Pro Leu Gln Glu Gly  
1 5 10 15

Asp Ser Arg Gln Asp Pro Ala Ser Gln Lys Arg Leu Leu Val Glu Ser  
20 25 30

Leu Phe Arg Asp Leu Asp Ala Asp Gly Asn Gly His Leu Ser Ser Ser  
35 40 45

Glu Leu Ala Gln His Val Leu Lys Lys Gln Asp Leu Asp Glu Asp Leu  
50 55 60

Leu Gly Cys Ser Pro Gly Asp Leu Leu Arg Phe Asp Asp Tyr Asn Ser  
65 70 75 80

Asp Ser Ser Leu Thr Leu Arg Glu Phe Tyr Met Ala Phe Gln Val Val

85	90	95
Gln Leu Ser Leu Ala Pro Glu Asp Arg Val Ser Val Thr Thr Val Thr		
100	105	110
Val Gly Leu Ser Thr Val Leu Thr Cys Ala Val His Gly Asp Leu Arg		
115	120	125
Pro Pro Ile Ile Trp Lys Arg Asn Gly Leu Thr Leu Asn Phe Leu Asp		
130	135	140
Leu Glu Asp Ile Asn Asp Phe Gly Glu Asp Asp Ser Leu Tyr Ile Thr		
145	150	155
Lys Val Thr Thr Ile His Met Gly Asn Tyr Thr Cys His Ala Ser Gly		
165	170	175
His Glu Gln Leu Phe Gln Thr His Val Leu Gln Val Asn Val Pro Pro		
180	185	190
Val Ile Arg Val Tyr Pro Glu Ser Gln Ala Gln Glu Pro Gly Val Ala		
195	200	205
Ala Ser Leu Arg Cys His Ala Glu Gly Ile Pro Met Pro Arg Ile Thr		
210	215	220
Trp Leu Lys Asn Gly Val Asp Val Ser Thr Gln Met Ser Lys Gln Leu		
225	230	235
Ser Leu Leu Ala Asn Gly Ser Glu Leu His Ile Ser Ser Val Arg Tyr		
245	250	255
Glu Asp Thr Gly Ala Tyr Thr Cys Ile Ala Lys Asn Glu Val Gly Val		
260	265	270
Asp Glu Asp Ile Ser Ser Leu Phe Ile Glu Asp Ser Ala Arg Lys Thr		
275	280	285
Leu Ala Asn Ile Leu Trp Arg Glu Glu Gly Leu Ser Val Gly Asn Met		
290	295	300
Phe Tyr Val Phe Ser Asp Asp Gly Ile Ile Val Ile His Pro Val Asp		
305	310	315
Cys Glu Ile Gln Arg His Leu Lys Pro Thr Glu Lys Ile Phe Met Ser		
325	330	335
Tyr Glu Glu Ile Cys Pro Gln Arg Glu Lys Asn Ala Thr Gln Pro Cys		

340	345	350
Gln Trp Val Ser Ala Val Asn Val Arg Asn Arg Tyr Ile Tyr Val Ala		
355	360	365
Gln Pro Ala Leu Ser Arg Val Leu Val Val Asp Ile Gln Ala Gln Lys		
370	375	380
Val Leu Gln Ser Ile Gly Val Asp Pro Leu Pro Ala Lys Leu Ser Tyr		
385	390	395
Asp Lys Ser His Asp Gln Val Trp Val Leu Ser Trp Gly Asp Val His		
405	410	415
Lys Ser Arg Pro Ser Leu Gln Val Ile Thr Glu Ala Ser Thr Gly Gln		
420	425	430
Ser Gln His Leu Ile Arg Thr Pro Phe Ala Gly Val Asp Asp Phe Phe		
435	440	445
Ile Pro Pro Thr Asn Leu Ile Ile Asn His Ile Arg Phe Gly Phe Ile		
450	455	460
Phe Asn Lys Ser Asp Pro Ala Val His Lys Val Asp Leu Glu Thr Met		
465	470	475
Met Pro Leu Lys Thr Ile Gly Leu His His His Gly Cys Val Pro Gln		
485	490	495
Ala Met Ala His Thr His Leu Gly Gly Tyr Phe Phe Ile Gln Cys Arg		
500	505	510
Gln Asp Ser Pro Ala Ser Ala Ala Arg Gln Leu Leu Val Asp Ser Val		
515	520	525
Thr Asp Ser Val Leu Gly Pro Asn Gly Asp Val Thr Gly Thr Pro His		
530	535	540
Thr Ser Pro Asp Gly Arg Phe Ile Val Ser Ala Ala Ala Asp Ser Pro		
545	550	555
Trp Leu His Val Gln Glu Ile Thr Val Arg Gly Glu Ile Gln Thr Leu		
565	570	575
Tyr Asp Leu Gln Ile Asn Ser Gly Ile Ser Asp Leu Ala Phe Gln Arg		
580	585	590
Ser Phe Thr Glu Ser Asn Gln Tyr Asn Ile Tyr Ala Ala Leu His Thr		



595	600	605
Glu Pro Asp Leu Leu Phe	Leu Glu Leu Ser Thr Gly Lys Val Gly Met	
610	615	620
Leu Lys Asn Leu Lys Glu Pro Pro Ala Gly Pro Ala Gln Pro Trp Gly		
625	630	635 640
Gly Thr His Arg Ile Met Arg Asp Ser Gly Leu Phe Gly Gln Tyr Leu		
645	650	655
Leu Thr Pro Ala Arg Glu Ser Leu Phe Leu Ile Asn Gly Arg Gln Asn		
660	665	670
Thr Leu Arg Cys Glu Val Ser Gly Ile Lys Gly Gly Thr Thr Val Val		
675	680	685
Trp Val Gly Glu Val		
690		

<210> 49  
 <211> 773  
 <212> PRT  
 <213> Homo sapiens

<400> 49
His Cys Val Thr Ser Arg Glu Thr Gly Gln Ala Glu Cys Ala Cys Met
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Asp Leu Cys Lys Arg His Tyr Lys Pro Val Cys Gly Ser Asp Gly Glu
20 25 30
Phe Tyr Glu Asn His Cys Glu Val His Arg Ala Ala Cys Leu Lys Lys
35 40 45
Gln Lys Ile Thr Ile Val His Asn Glu Asp Cys Phe Phe Lys Gly Asp
50 55 60
Lys Cys Lys Thr Thr Glu Cys Ser Lys Met Lys Asn Met Leu Leu Asp
65 70 75 80
Leu Gln Asn Gln Arg Tyr Ile Met Gln Glu Asn Glu Asn Pro Asn Gly
85 90 95
Asp Asp Ile Ser Arg Lys Lys Leu Leu Val Asp Gln Met Phe Lys Tyr
100 105 110

Phe	Asp	Ala	Asp	Ser	Asn	Asp	Leu	Val	Asp	Ile	Asn	Glu	Leu	Thr	Gln	115	120	125
Val	Ile	Lys	Gln	Glu	Glu	Leu	Gly	Lys	Asp	Leu	Phe	Asp	Cys	Thr	Leu	130	135	140
Tyr	Val	Leu	Leu	Lys	Tyr	Asp	Asp	Phe	Asn	Ala	Asp	Lys	His	Leu	Ala	145	150	155
Leu	Glu	Glu	Phe	Tyr	Arg	Ala	Phe	Gln	Val	Ile	Gln	Leu	Ser	Leu	Pro	165	170	175
Glu	Asp	Gln	Lys	Leu	Ser	Ile	Thr	Ala	Ala	Thr	Val	Gly	Gln	Ser	Ala	180	185	190
Val	Leu	Ser	Cys	Ala	Ile	Gln	Gly	Thr	Leu	Arg	Pro	Pro	Ile	Ile	Trp	195	200	205
Lys	Arg	Asn	Asn	Ile	Ile	Leu	Asn	Asn	Leu	Gly	Leu	Glu	Asp	Ile	Asn	210	215	220
Asp	Phe	Gly	Asp	Asp	Gly	Ser	Leu	Tyr	Ile	Thr	Lys	Val	Thr	Thr	Thr	225	230	235
His	Val	Gly	Asn	Tyr	Thr	Cys	Tyr	Ala	Asp	Gly	Tyr	Glu	Gln	Val	Tyr	245	250	255
Gln	Thr	His	Ile	Phe	Gln	Val	Asn	Val	Pro	Pro	Val	Ile	Arg	Val	Tyr	260	265	270
Pro	Glu	Ser	Gln	Ala	Arg	Glu	Pro	Gly	Val	Thr	Ala	Ser	Leu	Arg	Cys	275	280	285
His	Ala	Glu	Gly	Ile	Pro	Lys	Pro	Gln	Leu	Gly	Trp	Leu	Lys	Asn	Gly	290	295	300
Ile	Asp	Ile	Thr	Pro	Lys	Leu	Ser	Lys	Gln	Leu	Thr	Leu	Gln	Ala	Asn	305	310	315
Gly	Ser	Glu	Val	His	Ile	Ser	Asn	Val	Arg	Tyr	Glu	Asp	Thr	Gly	Ala	325	330	335
Tyr	Thr	Cys	Ile	Ala	Lys	Asn	Glu	Ala	Gly	Val	Asp	Glu	Asp	Ile	Ser	340	345	350
Ser	Leu	Phe	Val	Glu	Asp	Ser	Ala	Arg	Lys	Thr	Leu	Ala	Asn	Ile	Leu	355	360	365

Trp Arg Glu Glu Gly Leu Gly Ile Gly Asn Met Phe Tyr Val Phe Tyr  
 370 375 380

Glu Asp Gly Ile Lys Val Ile Gln Pro Ile Glu Cys Glu Phe Gln Arg  
 385 390 395 400

His Ile Lys Pro Ser Glu Lys Leu Leu Gly Phe Gln Asp Glu Val Cys  
 405 410 415

Pro Ile Ala Glu Gly Asp Glu Val Gln Arg Cys Val Trp Ala Ser Ala  
 420 425 430

Val Asn Val Lys Asp Lys Phe Ile Tyr Val Ala Gln Pro Thr Leu Asp  
 435 440 445

Arg Val Leu Ile Val Asp Val Gln Ser Gln Lys Val Val Gln Ala Val  
 450 455 460

Ser Thr Asp Pro Val Pro Val Lys Leu His Tyr Asp Lys Ser His Asp  
 465 470 475 480

Gln Val Trp Val Leu Ser Trp Gly Thr Leu Glu Lys Thr Ser Pro Thr  
 485 490 495

Leu Gln Val Ile Thr Leu Ala Ser Gly Asn Val Pro His His Thr Ile  
 500 505 510

His Thr Gln Pro Val Gly Lys Gln Phe Asp Arg Val Asp Asp Phe Phe  
 515 520 525

Ile Pro Thr Thr Thr Leu Ile Ile Thr His Met Arg Phe Gly Phe Ile  
 530 535 540

Leu His Lys Asp Glu Ala Ala Leu Gln Lys Ile Asp Leu Glu Thr Met  
 545 550 555 560

Ser Tyr Ile Lys Thr Ile Asn Leu Lys Asp Tyr Lys Cys Val Pro Gln  
 565 570 575

Ser Leu Ala Tyr Thr His Leu Gly Gly Tyr Tyr Phe Ile Gly Cys Lys  
 580 585 590

Pro Asp Ser Thr Gly Ala Val Ser Pro Gln Val Met Val Asp Gly Val  
 595 600 605

Thr Asp Ser Val Ile Gly Phe Asn Ser Asp Val Thr Gly Thr Pro Tyr  
 610 615 620

Val Ser Pro Asp Gly His Tyr Leu Val Ser Ile Asn Asp Val Lys Gly  
625 630 635 640

Leu Val Arg Val Gln Tyr Ile Thr Ile Arg Gly Glu Ile Gln Glu Ala  
645 650 655

Phe Asp Ile Tyr Thr Asn Leu His Ile Ser Asp Leu Ala Phe Gln Pro  
660 665 670

Ser Phe Thr Glu Ala His Gln Tyr Asn Ile Tyr Gly Ser Ser Ser Thr  
675 680 685

Gln Thr Asp Val Leu Phe Val Glu Leu Ser Ser Gly Lys Val Lys Met  
690 695 700

Ile Lys Ser Leu Lys Glu Pro Leu Lys Ala Glu Glu Trp Pro Trp Asn  
705 710 715 720

Arg Lys Asn Arg Gln Ile Gln Asp Ser Gly Leu Phe Gly Gln Tyr Leu  
725 730 735

Met Thr Pro Ser Lys Asp Ser Leu Phe Ile Leu Asp Gly Arg Leu Asn  
740 745 750

Lys Leu Asn Cys Glu Ile Thr Glu Val Glu Lys Gly Asn Thr Val Ile  
755 760 765

Trp Val Gly Asp Ala  
770

<210> 50

<211> 306

<212> PRT

<213> Rattus norvegicus

<400> 50

Met Trp Lys Arg Trp Leu Ala Leu Ala Leu Val Thr Ile Ala Leu Val  
1 5 10 15

His Gly Glu Glu Glu Gln Arg Ser Lys Ser Lys Ile Cys Ala Asn Val  
20 25 30

Phe Cys Gly Ala Gly Arg Glu Cys Ala Val Thr Glu Lys Gly Glu Pro  
35 40 45

Thr Cys Leu Cys Ile Glu Gln Cys Lys Pro His Lys Arg Pro Val Cys  
50 55 60

Gly Ser Asn Gly Lys Thr Tyr Leu Asn His Cys Glu Leu His Arg Asp  
65 70 75 80

Ala Cys Leu Thr Gly Ser Lys Ile Gln Val Asp Tyr Asp Gly His Cys  
85 90 95

Lys Glu Lys Lys Ser Val Ser Pro Ser Ala Ser Pro Val Val Cys Tyr  
100 105 110

Gln Ala Asn Arg Asp Glu Leu Arg Arg Arg Ile Ile Gln Trp Leu Glu  
115 120 125

Ala Glu Ile Ile Pro Asp Gly Trp Phe Ser Lys Gly Ser Asn Tyr Ser  
130 135 140

Glu Ile Leu Asp Lys Tyr Phe Lys Ser Phe Asp Asn Gly Asp Ser His  
145 150 155 160

Leu Asp Ser Ser Glu Phe Leu Lys Phe Val Glu Gln Asn Glu Thr Ala  
165 170 175

Val Asn Ile Thr Ala Tyr Pro Asn Gln Glu Asn Asn Lys Leu Leu Arg  
180 185 190

Gly Leu Cys Val Asp Ala Leu Ile Glu Leu Ser Asp Glu Asn Ala Asp  
195 200 205

Trp Lys Leu Ser Phe Gln Glu Phe Leu Lys Cys Leu Asn Pro Ser Phe  
210 215 220

Asn Pro Pro Glu Lys Lys Cys Ala Leu Glu Asp Glu Thr Tyr Ala Asp  
225 230 235 240

Gly Ala Glu Thr Glu Val Asp Cys Asn Arg Cys Val Cys Ser Cys Gly  
245 250 255

His Trp Val Cys Thr Ala Met Thr Cys Asp Gly Lys Asn Gln Lys Gly  
260 265 270

Val Gln Thr His Thr Glu Glu Glu Met Thr Arg Tyr Ala Gln Glu Leu  
275 280 285

Gln Lys His Gln Gly Thr Ala Glu Lys Thr Lys Lys Val Asn Thr Lys  
290 295 300

Glu Ile  
305

<210> 51  
 <211> 306  
 <212> PRT  
 <213> Mus musculus

<400> 51  
 Met Trp Lys Arg Trp Leu Ala Leu Ser Leu Val Thr Ile Ala Leu Val  
   1                  5                  10                  15  
 His Gly Glu Glu Glu Pro Arg Ser Lys Ser Lys Ile Cys Ala Asn Val  
                   20                  25                  30  
 Phe Cys Gly Ala Gly Arg Glu Cys Ala Val Thr Glu Lys Gly Glu Pro  
           35                  40                  45  
 Thr Cys Leu Cys Ile Glu Gln Cys Lys Pro His Lys Arg Pro Val Cys  
       50                  55                  60  
 Gly Ser Asn Gly Lys Thr Tyr Leu Asn His Cys Glu Leu His Arg Asp  
   65                  70                  75                  80  
 Ala Cys Leu Thr Gly Ser Lys Ile Gln Val Asp Tyr Asp Gly His Cys  
                   85                  90                  95  
 Lys Glu Lys Lys Ser Ala Ser Pro Ser Ala Ser Pro Val Val Cys Tyr  
           100                  105                  110  
 Gln Ala Asn Arg Asp Glu Leu Arg Arg Arg Leu Ile Gln Trp Leu Glu  
       115                  120                  125  
 Ala Glu Ile Ile Pro Asp Gly Trp Phe Ser Lys Gly Ser Asn Tyr Ser  
       130                  135                  140  
 Glu Ile Leu Asp Lys Tyr Phe Lys Ser Phe Asp Asn Gly Asp Ser His  
   145                  150                  155                  160  
 Leu Asp Ser Ser Glu Phe Leu Lys Phe Val Glu Gln Asn Glu Thr Ala  
           165                  170                  175  
 Ile Asn Ile Thr Thr Tyr Ala Asp Gln Glu Asn Asn Lys Leu Leu Arg  
       180                  185                  190  
 Ser Leu Cys Val Asp Ala Leu Ile Glu Leu Ser Asp Glu Asn Ala Asp  
       195                  200                  205  
 Trp Lys Leu Ser Phe Gln Glu Phe Leu Lys Cys Leu Asn Pro Ser Phe

210	215	220
Asn Pro Pro Glu Lys Lys Cys Ala Leu Glu Val Glu Thr Tyr Ala Asp		
225	230	235 240
Gly Ala Glu Thr Glu Val Asp Cys Asn Arg Cys Val Cys Ser Cys Gly		
	245	250 255
His Trp Val Cys Thr Ala Met Thr Cys Asp Gly Lys Asn Gln Lys Gly		
	260	265 270
Val Gln Thr His Thr Glu Glu Glu Lys Thr Gly Tyr Val Gln Glu Leu		
	275	280 285
Gln Lys His Gln Gly Thr Ala Glu Lys Thr Lys Lys Val Asn Thr Lys		
	290	295 300
Glu Ile		
305		

<210> 52  
 <211> 299  
 <212> PRT  
 <213> *Xenopus laevis*

<400> 52
Met Tyr Leu Arg Cys Val Pro Leu Leu Ala Leu Leu Val Leu Cys Ser
1 5 10 15
Ala Leu Glu Glu Pro Lys Ser Lys Ser Lys Val Cys Ala Asn Val Phe
20 25 30
Cys Gly Ala Gly Arg Glu Cys Ala Val Thr Glu Lys Gly Asp Pro Thr
35 40 45
Cys Asp Cys Ile Glu Lys Cys Lys Ser His Lys Arg Pro Val Cys Gly
50 55 60
Ser Asn Gly Lys Thr Tyr Leu Asn His Cys Glu Leu His Arg Asp Ala
65 70 75 80
Cys Leu Thr Gly Ser Lys Ile Gln Val Asp Tyr Asp Gly His Cys Lys
85 90 95
Glu Lys Thr Ser Asp Thr Pro Ala Ala Val Pro Val Ala Cys Tyr Gln
100 105 110

Ser Asp Arg Asp Glu Met Arg Arg Arg Val Ile His Trp Leu Gln Thr  
115 120 125

Glu Ile Thr Pro Asp Gly Trp Phe Ser Lys Gly Ser Asp Tyr Ser Glu  
130 135 140

Ile Leu Asp Arg Tyr Phe Lys Lys Phe Asp Asp Gly Asp Ser His Leu  
145 150 155 160

Asp Ser Ala Glu Leu Gln Ser Phe Leu Glu Gln Ser Gln Ser Thr Asn  
165 170 175

Ile Thr Thr Tyr Lys Asp Glu Glu Thr Asn Arg Met Leu Lys Ser Leu  
180 185 190

Cys Val Glu Ala Leu Ile Glu Leu Ser Asp Glu Asn Ala Asp Trp Lys  
195 200 205

Leu Asn Lys Asn Glu Phe Leu Lys Cys Leu Asn Pro Asp Phe Gln Pro  
210 215 220

Ser Glu Lys Lys Cys Ala Leu Glu Asp Glu Thr Tyr Glu Asp Gly Ala  
225 230 235 240

Glu Thr Gln Val Gln Cys Asn Arg Cys Val Cys Ala Cys Gly Asn Trp  
245 250 255

Val Cys Thr Ala Met Ala Cys Glu Gly Lys Asp Gly Asp His Gly Glu  
260 265 270

Asp Met Gly Arg Tyr Val Glu Glu Ile Arg Lys Gln Gln Glu Thr Ile  
275 280 285

Glu Asn Ser Lys Ser Ser Ser Asp Lys Asp Ala  
290 295

<210> 53  
<211> 308  
<212> PRT  
<213> Homo sapiens

<400> 53  
Met Trp Lys Arg Trp Leu Ala Leu Ala Leu Ala Leu Val Ala Val Ala  
1 5 10 15

Trp Val Arg Ala Glu Glu Glu Leu Arg Ser Lys Ser Lys Ile Cys Ala  
20 25 30



Asn	Val	Phe	Cys	Gly	Ala	Gly	Arg	Glu	Cys	Ala	Val	Thr	Glu	Lys	Gly	35	40	45	
Glu	Pro	Thr	Cys	Leu	Cys	Ile	Glu	Gln	Cys	Lys	Pro	His	Lys	Arg	Pro	50	55	60	
Val	Cys	Gly	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	Asn	His	Cys	Glu	Leu	His	65	70	75	80
Arg	Asp	Ala	Cys	Leu	Thr	Gly	Ser	Lys	Ile	Gln	Val	Asp	Tyr	Asp	Gly	85	90	95	
His	Cys	Lys	Glu	Lys	Lys	Ser	Val	Ser	Pro	Ser	Ala	Ser	Pro	Val	Val	100	105	110	
Cys	Tyr	Gln	Ser	Asn	Arg	Asp	Glu	Leu	Arg	Arg	Arg	Ile	Ile	Gln	Trp	115	120	125	
Leu	Glu	Ala	Glu	Ile	Ile	Pro	Asp	Gly	Trp	Phe	Ser	Lys	Gly	Ser	Asn	130	135	140	
Tyr	Ser	Glu	Ile	Leu	Asp	Lys	Tyr	Phe	Lys	Asn	Phe	Asp	Asn	Gly	Asp	145	150	155	160
Ser	Arg	Leu	Asp	Ser	Ser	Glu	Phe	Leu	Lys	Phe	Val	Glu	Gln	Asn	Glu	165	170	175	
Thr	Ala	Ile	Asn	Ile	Thr	Thr	Tyr	Pro	Asp	Gln	Glu	Asn	Asn	Lys	Leu	180	185	190	
Leu	Arg	Gly	Leu	Cys	Val	Asp	Ala	Leu	Ile	Glu	Leu	Ser	Asp	Glu	Asn	195	200	205	
Ala	Asp	Trp	Lys	Leu	Ser	Phe	Gln	Glu	Phe	Leu	Lys	Cys	Leu	Asn	Pro	210	215	220	
Ser	Phe	Asn	Pro	Pro	Glu	Lys	Lys	Cys	Ala	Leu	Glu	Asp	Glu	Thr	Tyr	225	230	235	240
Ala	Asp	Gly	Ala	Glu	Thr	Glu	Val	Asp	Cys	Asn	Arg	Cys	Val	Cys	Ala	245	250	255	
Cys	Gly	Asn	Trp	Val	Cys	Thr	Ala	Met	Thr	Cys	Asp	Gly	Lys	Asn	Gln	260	265	270	
Lys	Gly	Ala	Gln	Thr	Gln	Thr	Glu	Glu	Glu	Met	Thr	Arg	Tyr	Val	Gln	275	280	285	

Glu Leu Gln Lys His Gln Glu Thr Ala Glu Lys Thr Lys Arg Val Ser  
290 295 300

Thr Lys Glu Ile  
305

<210> 54  
<211> 315  
<212> PRT  
<213> Gallus gallus

<400> 54  
Met Ile Trp Lys Thr Leu Pro Leu Leu Cys Ala Leu Leu Ala Val Ala  
1 5 10 15

Arg Leu Arg Ala Glu Glu Glu Pro Arg Ser Lys Ser Lys Ile Cys Ala  
20 25 30

Asn Val Phe Cys Gly Arg Gly Ala Glu Cys Ala Val Thr Glu Lys Gly  
35 40 45

Glu Pro Thr Cys Leu Cys Ile Glu Gln Cys Lys Pro His Gly Arg Pro  
50 55 60

Val Cys Gly Ser Asn Gly Lys Thr Tyr Leu Asn His Cys Glu Leu His  
65 70 75 80

Arg Asp Ala Cys Leu Thr Gly Ser Lys Ile Gln Val Asp Tyr Asp Gly  
85 90 95

His Cys Lys Glu Lys Lys Ser Glu Asn Pro Ala Ala Ser Pro Val Val  
100 105 110

Cys Tyr Gln Ser Asp Arg Asp Glu Leu His Arg Arg Val Ile Arg Trp  
115 120 125

Leu Glu Gly Glu Ile Ile Pro Asp Gly Trp Phe Ser Lys Gly Ser Asn  
130 135 140

Tyr Ser Asp Val Leu Glu Lys Tyr Phe Lys Asn Phe Asp Asp Asp Ser  
145 150 155 160

Arg Leu Asp Ser Thr Glu Phe Leu Lys Phe Val Glu Gln Asn Glu Thr  
165 170 175

Ala Val Pro Thr Ile Thr Thr Tyr Val Asp Gln Glu Thr Asn Lys Leu

180	185	190
Leu Arg Gly Leu Cys Val Val	Ala Leu Ile Glu Leu Ser Val Gln Asn	
195	200	205
Ala Asp Trp Lys Leu Ser Phe Asn Glu Phe Leu Lys Cys Leu Ser Pro		
210	215	220
Ser Phe Asn Pro Pro Glu Lys Lys Cys Ala Leu Glu Asp Glu Thr Tyr		
225	230	235
Glu Asp Gly Ala Glu Thr Gln Val Glu Cys Asn Arg Cys Val Tyr Ala		
245	250	255
Cys Gly Asn Trp Val Cys Thr Ala Met Thr Cys Glu Gly Lys Asn Glu		
260	265	270
Lys Met Thr Ala His Arg Gln Gln Pro Gly Gln Asp Leu Thr Glu Glu		
275	280	285
Glu Leu Ala Arg Tyr Val Gln Glu Leu Gln Lys His Gln Glu Gln Ala		
290	295	300
Glu Lys Ile Lys Lys Met Ser Thr Lys Glu Met		
305	310	315

<210> 55  
 <211> 1375  
 <212> PRT  
 <213> *Drosophila melanogaster*

<400> 55
Met Ala Ile Thr Thr Asn Arg Ser Ser Arg Thr Leu Trp Asn Trp Leu
1 5 10 15
Leu Ser Ser Cys Leu Ile Phe Gln Leu Ile Gly Ser Ser Leu Ala Ser
20 25 30
Gln Ala Leu Ser Phe Thr Leu Glu Pro Gln Asp Ala Val Val Pro Glu
35 40 45
Gly His Ser Val Leu Leu Gln Cys Ala Gly Thr Ala Ser Ile Gly Arg
50 55 60
Gly Gly Lys Ser Lys Ser Asn Leu Pro Ser Ser Val Ser Ile Arg Trp
65 70 75 80

Arg Gly Pro Asp Gly Gln Asp Leu Val Ile Val Gly Asp Thr Phe Arg	85	90	95
Thr Gln Leu Lys Asn Gly Ser Leu Tyr Ile Ser Ser Val Glu Glu Asn	100	105	110
Arg Gly Leu Thr Gly Ala Tyr Gln Cys Leu Leu Thr Ala Glu Gly Val	115	120	125
Gly Ser Ile Leu Ser Arg Pro Ala Leu Val Ala Ile Val Arg Gln Pro	130	135	140
Asp Leu Asn Gln Asp Phe Leu Glu Thr Tyr Leu Leu Pro Gly Gln Thr	145	150	155
Ala Tyr Phe Arg Cys Met Leu Gly Glu Ala Asn Trp Gln Glu Gly Val	165	170	175
Lys His Ser Val Gln Trp Leu Lys Asp Asp Leu Pro Leu Pro Leu Asp	180	185	190
Lys Leu Arg Met Val Val Leu Pro Asn Gly Ala Leu Glu Ile Asp Glu	195	200	205
Val Gly Pro Ser Asp Arg Gly Ser Tyr Gln Cys Asn Val Thr Ser Gly	210	215	220
Ser Ser Ser Arg Leu Ser Ser Lys Thr Asn Leu Asn Ile Lys Lys Pro	225	230	235
Ser Asp Pro Gly Val Glu Asn Ser Val Ala Pro Ser Phe Leu Val Gly	245	250	255
Pro Ser Pro Lys Thr Val Arg Glu Gly Asp Thr Val Thr Leu Asp Cys	260	265	270
Val Ala Asn Gly Val Pro Lys Pro Gln Ile Lys Trp Leu Arg Asn Gly	275	280	285
Met Asp Leu Asp Phe Asn Asp Leu Asp Ser Arg Phe Ser Ile Val Gly	290	295	300
Thr Gly Ser Leu Gln Ile Ser Ser Ala Glu Asp Ile Asp Ser Gly Asn	305	310	315
Tyr Gln Cys Arg Ala Ser Asn Thr Val Asp Ser Leu Asp Ala Gln Ala	325	330	335

Thr	Val	Gln	Val	Gln	Glu	Pro	Pro	Lys	Phe	Ile	Lys	Ala	Pro	Lys	Asp	340	345	350	
Thr	Thr	Ala	His	Glu	Lys	Asp	Glu	Pro	Glu	Leu	Lys	Cys	Asp	Ile	Trp	355	360	365	
Gly	Lys	Pro	Lys	Pro	Val	Ile	Arg	Trp	Leu	Lys	Asn	Gly	Asp	Leu	Ile	370	375	380	
Thr	Pro	Asn	Asp	Tyr	Met	Gln	Leu	Val	Asp	Gly	His	Asn	Leu	Lys	Ile	385	390	395	400
Leu	Gly	Leu	Leu	Asn	Ser	Asp	Ala	Gly	Met	Phe	Gln	Cys	Val	Gly	Thr	405	410	415	
Asn	Ala	Ala	Gly	Ser	Val	His	Ala	Ala	Ala	Arg	Leu	Arg	Val	Val	Pro	420	425	430	
Gln	Gly	Asp	Ser	Pro	Glu	Gln	Asp	Pro	Ser	Val	Pro	His	Pro	Gly	Gly	435	440	445	
Lys	Pro	Leu	Asp	Ser	Gly	Leu	Gln	Ala	Arg	Leu	Pro	Ser	Gln	Pro	Arg	450	455	460	
Asp	Leu	Val	Ala	Gln	Ile	Val	Lys	Ser	Arg	Phe	Val	Thr	Leu	Ser	Trp	465	470	475	480
Val	Glu	Pro	Leu	Gln	Asn	Ala	Gly	Asp	Val	Val	Tyr	Tyr	Thr	Val	Tyr	485	490	495	
Tyr	Lys	Met	Asn	Asn	Ser	Glu	Arg	Glu	Gln	Lys	Met	Val	Thr	Lys	Ser	500	505	510	
His	Asp	Asp	Gln	Gln	Val	Asn	Ile	Gln	Ser	Leu	Leu	Pro	Gly	Arg	Thr	515	520	525	
Tyr	Gln	Phe	Arg	Val	Glu	Ala	Asn	Thr	Asn	Phe	Gly	Ser	Gly	Ala	Ser	530	535	540	
Ser	Ala	Pro	Leu	Glu	Val	Ser	Thr	Gln	Pro	Glu	Val	Asn	Ile	Ala	Gly	545	550	555	560
Pro	Pro	Arg	Asn	Phe	Glu	Gly	Tyr	Ala	Arg	Ser	His	Lys	Glu	Ile	Tyr	565	570	575	
Val	Lys	Trp	Glu	Glu	Pro	Thr	Val	Thr	Asn	Gly	Glu	Ile	Leu	Lys	Tyr	580	585	590	

Arg	Val	Tyr	Tyr	Ser	Glu	Asn	Asp	Ser	Gly	Ala	Asp	Leu	Tyr	His	Asp	595	600	605	
Ser	Thr	Ala	Leu	Glu	Ala	Val	Leu	Thr	Glu	Leu	Arg	Pro	His	Thr	Asp	610	615	620	
Tyr	Val	Ile	Ser	Val	Val	Pro	Phe	Asn	Arg	Asn	Gly	Met	Gly	Asp	Ser	625	630	635	640
Ser	Ala	Glu	Ile	Arg	Val	Lys	Thr	Phe	Ser	Ser	Thr	Pro	Ser	Glu	Pro	645	650	655	
Pro	Asn	Asn	Val	Thr	Leu	Glu	Val	Thr	Ser	Ser	Ser	Ser	Ile	Thr	Val	660	665	670	
His	Trp	Glu	Pro	Pro	Ala	Glu	Glu	Asp	Arg	Asn	Gly	Gln	Ile	Thr	Gly	675	680	685	
Tyr	Lys	Ile	Arg	Tyr	Arg	Lys	Phe	Lys	Asp	Ala	Pro	Gln	Val	Lys	Ser	690	695	700	
Thr	Pro	Ala	Asn	Ile	Arg	Tyr	Phe	Glu	Leu	Ser	Asn	Leu	Asp	Arg	Asn	705	710	715	720
Ala	Glu	Tyr	Gln	Val	Lys	Ile	Ala	Ala	Met	Thr	Val	Asn	Gly	Ser	Gly	725	730	735	
Pro	Phe	Thr	Glu	Trp	Asn	Arg	Ala	Asn	Thr	Leu	Glu	Asn	Asp	Leu	Asp	740	745	750	
Glu	Thr	Gln	Val	Pro	Gly	Lys	Pro	Ile	Trp	Ile	Ser	Ile	His	Pro	Gly	755	760	765	
Ala	Asn	Asn	Ile	Ala	Leu	His	Trp	Gly	Pro	Pro	Gln	His	Pro	Glu	Ile	770	775	780	
Lys	Ile	Arg	Asn	Tyr	Val	Leu	Gly	Trp	Gly	Arg	Gly	Ile	Pro	Asp	Glu	785	790	795	800
Asn	Thr	Ile	Glu	Leu	Lys	Glu	Thr	Glu	Arg	Tyr	His	Ile	Leu	Lys	Asn	805	810	815	
Leu	Glu	Ser	Asn	Met	Asp	Tyr	Val	Val	Ser	Leu	Arg	Ala	Arg	Asn	Val	820	825	830	
Lys	Gly	Asp	Gly	Pro	Pro	Ile	Tyr	Asp	Asn	Ile	Lys	Thr	Arg	Asp	Glu	835	840	845	

Glu	Pro	Val	Asp	Ala	Pro	Thr	Pro	Leu	Glu	Val	Pro	Val	Gly	Leu	Arg	850	855	860	
Ala	Ile	Thr	Met	Ser	Ser	Ser	Ser	Ile	Val	Val	Tyr	Trp	Ile	Asp	Thr	865	870	875	880
Met	Leu	Asn	Lys	Asn	Gln	His	Val	Thr	Asp	Asn	Arg	His	Tyr	Thr	Val	885	890	895	
Ser	Tyr	Gly	Ile	Thr	Gly	Ser	Asn	Arg	Tyr	Arg	Tyr	His	Asn	Thr	Thr	900	905	910	
Asp	Leu	Asn	Cys	Met	Ile	Asn	Asp	Leu	Arg	Pro	Asn	Thr	Gln	Tyr	Glu	915	920	925	
Phe	Ala	Val	Lys	Val	Val	Lys	Gly	Arg	Arg	Glu	Ser	Ser	Trp	Ser	Met	930	935	940	
Ser	Val	Leu	Asn	Ser	Thr	Tyr	Gln	Asn	Val	Pro	Val	Thr	Pro	Pro	Arg	945	950	955	960
Glu	Val	Thr	Val	Arg	Leu	Asp	Glu	Met	Asn	Pro	Pro	Thr	Val	Ile	Val	965	970	975	
Gln	Trp	Ile	Pro	Pro	Lys	His	Thr	Leu	Gly	Gln	Ile	Thr	Gly	Tyr	Asn	980	985	990	
Ile	Tyr	Tyr	Thr	Thr	Asp	Thr	Thr	Lys	Arg	Asp	Arg	Asp	Trp	Ser	Val	995	1000	1005	
Glu	Ala	Phe	Ala	Gly	Glu	Glu	Thr	Met	Leu	Met	Leu	Pro	Asn	Leu	Lys	1010	1015	1020	
Pro	Tyr	Thr	Thr	Tyr	Tyr	Phe	Lys	Val	Gln	Ala	Arg	Thr	Thr	Lys	Gly	1025	1030	1035	1040
Ala	Asn	Asn	Ala	Pro	Phe	Ser	Ala	Leu	Val	Ser	Tyr	Thr	Thr	Ser	Ala	1045	1050	1055	
Ala	Val	Thr	Met	Gln	Glu	Pro	Asp	Thr	Ile	Ala	Lys	Gly	Ile	Asp	Asn	1060	1065	1070	
Glu	Lys	Leu	Leu	Tyr	Ile	Ile	Ile	Ala	Ala	Thr	Ala	Val	Val	Leu	Leu	1075	1080	1085	
Val	Val	Leu	Leu	Gly	Val	Leu	Leu	Leu	Cys	Arg	Arg	Lys	Pro	Gln	Ser	1090	1095	1100	

Ser Pro Glu His Thr Lys Lys Ser Tyr Gln Lys Asn Asn Val Gly Val			
1105	1110	1115	1120
Pro Lys Pro Pro Asp Leu Trp Ile His His Asp Gln Met Glu Leu Lys			
	1125	1130	1135
Asn Ile Asp Lys Gly Leu His Thr Val Thr Pro Val Cys Ser Asp Gly			
	1140	1145	1150
Ala Ser Ser Ser Gly Ala Leu Thr Leu Pro Arg Ser Val Val His Ser			
	1155	1160	1165
Glu Tyr Glu Val Glu Thr Pro Val Pro Gly His Val Thr Asn Ser Leu			
	1170	1175	1180
Asp Lys Arg Ser Tyr Val Pro Gly Tyr Met Thr Thr Ser Met Asn Gly			
1185	1190	1195	1200
Thr Met Glu Arg Pro Gln Tyr Pro Arg Thr Gln Tyr Ser His Gln Asn			
	1205	1210	1215
Arg Ser His Met Thr Met Glu Ala Gly Leu Ser Gln Gln Ser Leu Thr			
	1220	1225	1230
Gln Pro Gln Ser Asn Ser Met Ala Gln Thr Pro Glu His Pro Tyr Gly			
	1235	1240	1245
Gly Tyr Asp Ala Asn Phe Cys Asn Ala Gly Asn Ala Ala Ala Gly Asn			
	1250	1255	1260
Gly Cys Val Ser Thr Ile Glu Ser Ser Lys Arg Gly His Pro Leu Lys			
1265	1270	1275	1280
Ser Phe Ser Val Pro Gly Pro Pro Pro Thr Gly Gly Ala Thr Pro Val			
	1285	1290	1295
Thr Lys His Thr Pro Ala Val Thr Ile Arg Pro Gln Asn Gln Ser Pro			
	1300	1305	1310
Tyr Lys Lys Pro Ser Phe Ser Ala Ala Thr Pro Asn Arg Leu Gln Gly			
	1315	1320	1325
Gly Gly Ser Val Val His Ser Thr Asp Glu Ile Gln Arg Leu Ala Pro			
	1330	1335	1340
Ser Thr Ser Thr Glu Glu Leu Asn Gln Glu Met Ala Asn Leu Glu Gly			
1345	1350	1355	1360



Leu Met Lys Asp Leu Ser Ala Ile Thr Ala Asn Glu Phe Glu Cys  
1365 1370 1375

<210> 56  
<211> 1395  
<212> PRT  
<213> Drosophila melanogaster

<400> 56  
Met His Pro Met His Pro Glu Asn His Ala Ile Ala Arg Ser Thr Ser  
1 5 10 15  
Thr Thr Asn Asn Pro Ser Arg Ser Arg Ser Ser Arg Met Trp Leu Leu  
20 25 30  
Pro Ala Trp Leu Leu Leu Val Leu Val Ala Ser Asn Gly Leu Pro Ala  
35 40 45  
Val Arg Gly Gln Tyr Gln Ser Pro Arg Ile Ile Glu His Pro Thr Asp  
50 55 60  
Leu Val Val Lys Lys Asn Glu Pro Ala Thr Leu Asn Cys Lys Val Glu  
65 70 75 80  
Gly Lys Pro Glu Pro Thr Ile Glu Trp Phe Lys Asp Gly Glu Pro Val  
85 90 95  
Ser Thr Asn Glu Lys Lys Ser His Arg Val Gln Phe Lys Asp Gly Ala  
100 105 110  
Leu Phe Phe Tyr Arg Thr Met Gln Gly Lys Lys Glu Gln Asp Gly Gly  
115 120 125  
Glu Tyr Trp Cys Val Ala Lys Asn Arg Val Gly Gln Ala Val Ser Arg  
130 135 140  
His Ala Ser Leu Gln Ile Ala Val Leu Arg Asp Asp Phe Arg Val Glu  
145 150 155 160  
Pro Lys Asp Thr Arg Val Ala Lys Gly Glu Thr Ala Leu Leu Glu Cys  
165 170 175  
Gly Pro Pro Lys Gly Ile Pro Glu Pro Thr Leu Ile Trp Ile Lys Asp  
180 185 190  
Gly Val Pro Leu Asp Asp Leu Lys Ala Met Ser Phe Gly Ala Ser Ser  
195 200 205

Arg Val Arg Ile Val Asp Gly Gly Asn Leu Leu Ile Ser Asn Val Glu  
 210 215 220

Pro Ile Asp Glu Gly Asn Tyr Lys Cys Ile Ala Gln Asn Leu Val Gly  
 225 230 235 240

Thr Arg Glu Ser Ser Tyr Ala Lys Leu Ile Val Gln Val Lys Pro Tyr  
 245 250 255

Phe Met Lys Glu Pro Lys Asp Gln Val Met Leu Tyr Gly Gln Thr Ala  
 260 265 270

Thr Phe His Cys Ser Val Gly Gly Asp Pro Pro Pro Lys Val Leu Trp  
 275 280 285

Lys Lys Glu Glu Gly Asn Ile Pro Val Ser Arg Ala Arg Ile Leu His  
 290 295 300

Asp Glu Lys Ser Leu Glu Ile Ser Asn Ile Thr Pro Thr Asp Glu Gly  
 305 310 315 320

Thr Tyr Val Cys Glu Ala His Asn Asn Val Gly Gln Ile Ser Ala Arg  
 325 330 335

Ala Ser Leu Ile Val His Ala Pro Pro Asn Phe Thr Lys Arg Pro Ser  
 340 345 350

Asn Lys Lys Val Gly Leu Asn Gly Val Val Gln Leu Pro Cys Met Ala  
 355 360 365

Ser Gly Asn Pro Pro Pro Ser Val Phe Trp Thr Lys Glu Gly Val Ser  
 370 375 380

Thr Leu Met Phe Pro Asn Ser Ser His Gly Arg Gln Tyr Val Ala Ala  
 385 390 395 400

Asp Gly Thr Leu Gln Ile Thr Asp Val Arg Gln Glu Asp Glu Gly Tyr  
 405 410 415

Tyr Val Cys Ser Ala Phe Ser Val Val Asp Ser Ser Thr Val Arg Val  
 420 425 430

Phe Leu Gln Val Ser Ser Val Asp Glu Arg Pro Pro Pro Ile Ile Gln  
 435 440 445

Ile Gly Pro Ala Asn Gln Thr Leu Pro Lys Gly Ser Val Ala Thr Leu  
 450 455 460

Pro Cys Arg Ala Thr Gly Asn Pro Ser Pro Arg Ile Lys Trp Phe His  
 465 470 475 480

Asp Gly His Ala Val Gln Ala Gly Asn Arg Tyr Ser Ile Ile Gln Gly  
 485 490 495

Ser Ser Leu Arg Val Asp Asp Leu Gln Leu Ser Asp Ser Gly Thr Tyr  
 500 505 510

Thr Cys Thr Ala Ser Gly Glu Arg Gly Glu Thr Ser Trp Ala Ala Thr  
 515 520 525

Leu Thr Val Glu Lys Pro Gly Ser Thr Ser Leu His Arg Ala Ala Asp  
 530 535 540

Pro Ser Thr Tyr Pro Ala Pro Pro Gly Thr Pro Lys Val Leu Asn Val  
 545 550 555 560

Ser Arg Thr Ser Ile Ser Leu Arg Trp Ala Lys Ser Gln Glu Lys Pro  
 565 570 575

Gly Ala Val Gly Pro Ile Ile Gly Tyr Thr Val Glu Tyr Phe Ser Pro  
 580 585 590

Asp Leu Gln Thr Gly Trp Ile Val Ala Ala His Arg Val Gly Asp Thr  
 595 600 605

Gln Val Thr Ile Ser Gly Leu Thr Pro Gly Thr Ser Tyr Val Phe Leu  
 610 615 620

Val Arg Ala Glu Asn Thr Gln Gly Ile Ser Val Pro Ser Gly Leu Ser  
 625 630 635 640

Asn Val Ile Lys Thr Ile Glu Ala Asp Phe Asp Ala Ala Ser Ala Asn  
 645 650 655

Asp Leu Ser Ala Ala Arg Thr Leu Leu Thr Gly Lys Ser Val Glu Leu  
 660 665 670

Ile Asp Ala Ser Ala Ile Asn Ala Ser Ala Val Arg Leu Glu Trp Met  
 675 680 685

Leu His Val Ser Ala Asp Glu Lys Tyr Val Glu Gly Leu Arg Ile His  
 690 695 700

Tyr Lys Asp Ala Ser Val Pro Ser Ala Gln Tyr His Ser Ile Thr Val  
 705 710 715 720

Met	Asp	Ala	Ser	Ala	Glu	Ser	Phe	Val	Val	Gly	Asn	Leu	Lys	Lys	Tyr	725	730	735
Thr	Lys	Tyr	Glu	Phe	Phe	Leu	Thr	Pro	Phe	Phe	Glu	Thr	Ile	Glu	Gly	740	745	750
Gln	Pro	Ser	Asn	Ser	Lys	Thr	Ala	Leu	Thr	Tyr	Glu	Asp	Val	Pro	Ser	755	760	765
Ala	Pro	Pro	Asp	Asn	Ile	Gln	Ile	Gly	Met	Tyr	Asn	Gln	Thr	Ala	Gly	770	775	780
Trp	Val	Arg	Trp	Thr	Pro	Pro	Pro	Ser	Gln	His	His	Asn	Gly	Asn	Leu	785	790	795
Tyr	Gly	Tyr	Lys	Ile	Glu	Val	Ser	Ala	Gly	Asn	Thr	Met	Lys	Val	Leu	805	810	815
Ala	Asn	Met	Thr	Leu	Asn	Ala	Thr	Thr	Thr	Ser	Val	Leu	Leu	Asn	Asn	820	825	830
Leu	Thr	Thr	Gly	Ala	Val	Tyr	Ser	Val	Arg	Leu	Asn	Ser	Phe	Thr	Lys	835	840	845
Ala	Gly	Asp	Gly	Pro	Tyr	Ser	Lys	Pro	Ile	Ser	Leu	Phe	Met	Asp	Pro	850	855	860
Thr	His	His	Val	His	Pro	Pro	Arg	Ala	His	Pro	Ser	Gly	Thr	His	Asp	865	870	875
Gly	Arg	His	Glu	Gly	Gln	Asp	Leu	Thr	Tyr	His	Asn	Asn	Gly	Asn	Ile	885	890	895
Pro	Pro	Gly	Asp	Ile	Asn	Pro	Thr	Thr	His	Lys	Lys	Thr	Thr	Asp	Tyr	900	905	910
Leu	Ser	Gly	Pro	Trp	Leu	Met	Val	Leu	Val	Cys	Ile	Val	Leu	Leu	Val	915	920	925
Leu	Val	Ile	Ser	Ala	Ala	Ile	Ser	Met	Val	Tyr	Phe	Lys	Arg	Lys	His	930	935	940
Gln	Met	Thr	Lys	Glu	Leu	Gly	His	Leu	Ser	Val	Val	Ser	Asp	Asn	Glu	945	950	955
Ile	Thr	Ala	Leu	Asn	Ile	Asn	Ser	Lys	Glu	Ser	Leu	Trp	Ile	Asp	His	965	970	975

His Arg Gly Trp Arg Thr Ala Asp Thr Asp Lys Asp Ser Gly Leu Ser  
 980 985 990

Glu Ser Lys Leu Leu Ser His Val Asn Ser Ser Gln Ser Asn Tyr Asn  
 995 1000 1005

Asn Ser Asp Gly Gly Thr Asp Tyr Ala Glu Val Asp Thr Arg Asn Leu  
 1010 1015 1020

Thr Thr Phe Tyr Asn Cys Arg Lys Ser Pro Asp Asn Pro Thr Pro Tyr  
 1025 1030 1035 1040

Ala Thr Thr Met Ile Ile Gly Thr Ser Ser Ser Glu Thr Cys Thr Lys  
 1045 1050 1055

Thr Thr Ser Ile Ser Ala Asp Lys Asp Ser Gly Thr His Ser Pro Tyr  
 1060 1065 1070

Ser Asp Ala Phe Ala Gly Gln Val Pro Ala Val Pro Val Val Lys Ser  
 1075 1080 1085

Asn Tyr Leu Gln Tyr Pro Val Glu Pro Ile Asn Trp Ser Glu Phe Leu  
 1090 1095 1100

Pro Pro Pro Pro Glu His Pro Pro Pro Ser Ser Thr Tyr Gly Tyr Ala  
 1105 1110 1115 1120

Gln Gly Ser Pro Glu Ser Ser Arg Lys Ser Ser Lys Ser Ala Gly Ser  
 1125 1130 1135

Gly Ile Ser Thr Asn Gln Ser Ile Leu Asn Ala Ser Ile His Ser Ser  
 1140 1145 1150

Ser Ser Gly Gly Phe Ser Ala Trp Gly Val Ser Pro Gln Tyr Ala Val  
 1155 1160 1165

Ala Cys Pro Pro Glu Asn Val Tyr Ser Asn Pro Leu Ser Ala Val Ala  
 1170 1175 1180

Gly Gly Thr Gln Asn Arg Tyr Gln Ile Thr Pro Thr Asn Gln His Pro  
 1185 1190 1195 1200

Pro Gln Leu Pro Ala Tyr Phe Ala Thr Thr Gly Pro Gly Gly Ala Val  
 1205 1210 1215

Pro Pro Asn His Leu Pro Phe Ala Thr Gln Arg His Ala Ala Ser Glu  
 1220 1225 1230

Tyr Gln Ala Gly Leu Asn Ala Ala Arg Cys Ala Gln Ser Arg Ala Cys  
1235 1240 1245

Asn Ser Cys Asp Ala Leu Ala Thr Pro Ser Pro Met Gln Pro Pro Pro  
1250 1255 1260

Pro Val Pro Val Pro Glu Gly Trp Tyr Gln Pro Val His Pro Asn Ser  
1265 1270 1275 1280

His Pro Met His Pro Thr Ser Ser Asn His Gln Ile Tyr Gln Cys Ser  
1285 1290 1295

Ser Glu Cys Ser Asp His Ser Arg Ser Ser Gln Ser His Lys Arg Gln  
1300 1305 1310

Leu Gln Leu Glu Glu His Gly Ser Ser Ala Lys Gln Arg Gly Gly His  
1315 1320 1325

His Arg Arg Arg Ala Pro Val Val Gln Pro Cys Met Glu Ser Glu Asn  
1330 1335 1340

Glu Asn Met Leu Ala Glu Tyr Glu Gln Arg Gln Tyr Thr Ser Asp Cys  
1345 1350 1355 1360

Cys Asn Ser Ser Arg Glu Gly Asp Thr Cys Ser Cys Ser Glu Gly Ser  
1365 1370 1375

Cys Leu Tyr Ala Glu Ala Gly Glu Pro Ala Pro Arg Gln Met Thr Ala  
1380 1385 1390

Lys Asn Thr  
1395

<210> 57  
<211> 2012  
<212> PRT  
<213> Homo sapiens

<400> 57  
Met Trp Ile Leu Ala Leu Ser Leu Phe Gln Ser Phe Ala Asn Val Phe  
1 5 10 15

Ser Glu Asp Leu His Ser Ser Leu Tyr Phe Val Asn Ala Ser Leu Gln  
20 25 30

Glu Val Val Phe Ala Ser Thr Thr Gly Thr Leu Val Pro Cys Pro Ala

35	40	45
Ala Gly Ile Pro Pro Val Thr Leu Arg Trp Tyr Leu Ala Thr Gly Glu		
50	55	60
Glu Ile Tyr Asp Val Pro Gly Ile Arg His Val His Pro Asn Gly Thr		
65	70	75
Leu Gln Ile Phe Pro Phe Pro Pro Ser Ser Phe Ser Thr Leu Ile His		
85	90	95
Asp Asn Thr Tyr Tyr Cys Thr Ala Glu Asn Pro Ser Gly Lys Ile Arg		
100	105	110
Ser Gln Asp Val His Ile Lys Ala Val Leu Arg Glu Pro Tyr Thr Val		
115	120	125
Arg Val Glu Asp Gln Lys Thr Met Arg Gly Asn Val Ala Val Phe Lys		
130	135	140
Cys Ile Ile Pro Ser Ser Val Glu Ala Tyr Ile Thr Val Val Ser Trp		
145	150	155
Glu Lys Asp Thr Val Ser Leu Val Ser Gly Ser Arg Phe Leu Ile Thr		
165	170	175
Ser Thr Gly Ala Leu Tyr Ile Lys Asp Val Gln Asn Glu Asp Gly Leu		
180	185	190
Tyr Asn Tyr Arg Cys Ile Thr Arg His Arg Tyr Thr Gly Glu Thr Arg		
195	200	205
Gln Ser Asn Ser Ala Arg Leu Phe Val Ser Asp Pro Ala Asn Ser Ala		
210	215	220
Pro Ser Ile Leu Asp Gly Phe Asp His Arg Lys Ala Met Ala Gly Gln		
225	230	235
Arg Val Glu Leu Pro Cys Lys Ala Leu Gly His Pro Glu Pro Asp Tyr		
245	250	255
Arg Trp Leu Lys Asp Asn Met Pro Leu Glu Leu Ser Gly Arg Phe Gln		
260	265	270
Lys Thr Val Thr Gly Leu Leu Ile Glu Asn Ile Arg Pro Ser Asp Ser		
275	280	285
Gly Ser Tyr Val Cys Glu Val Ser Asn Arg Tyr Gly Thr Ala Lys Val		

290		295		300
Ile Gly Arg Leu Tyr Val Lys Gln Pro Leu Lys Ala Thr Ile Ser Pro				
305		310		315 320
Arg Lys Val Lys Ser Ser Val Gly Ser Gln Val Ser Leu Ser Cys Ser				
	325		330	335
Val Thr Gly Thr Glu Asp Gln Glu Leu Ser Trp Tyr Arg Asn Gly Glu				
	340		345	350
Ile Leu Asn Pro Gly Lys Asn Val Arg Ile Thr Gly Ile Asn His Glu				
	355		360	365
Asn Leu Ile Met Asp His Met Val Lys Ser Asp Gly Gly Ala Tyr Gln				
	370		375	380
Cys Phe Val Arg Lys Asp Lys Leu Ser Ala Gln Asp Tyr Val Gln Val				
385		390		395 400
Val Leu Glu Asp Gly Thr Pro Lys Ile Ile Ser Ala Phe Ser Glu Lys				
	405		410	415
Val Val Ser Pro Ala Glu Pro Val Ser Leu Met Cys Asn Val Lys Gly				
	420		425	430
Thr Pro Leu Pro Thr Ile Thr Trp Thr Leu Asp Asp Asp Pro Ile Leu				
	435		440	445
Lys Gly Gly Ser His Arg Ile Ser Gln Met Ile Thr Ser Glu Gly Asn				
	450		455	460
Val Val Ser Tyr Leu Asn Ile Ser Ser Ser Gln Val Arg Asp Gly Gly				
465		470		475 480
Val Tyr Arg Cys Thr Ala Asn Asn Ser Ala Gly Val Val Leu Tyr Gln				
	485		490	495
Ala Arg Ile Asn Val Arg Gly Pro Ala Ser Ile Arg Pro Met Lys Asn				
	500		505	510
Ile Thr Ala Ile Ala Gly Arg Asp Thr Tyr Ile His Cys Arg Val Ile				
	515		520	525
Gly Tyr Pro Tyr Tyr Ser Ile Lys Trp Tyr Lys Asn Ser Asn Leu Leu				
	530		535	540
Pro Phe Asn His Arg Gln Val Ala Phe Glu Asn Asn Gly Thr Leu Lys				



545		550		555		560
Leu Ser Asp Val Gln Lys Glu Val Asp Glu Gly Glu Tyr Thr Cys Asn						
	565		570			575
Val Leu Val Gln Pro Gln Leu Ser Thr Ser Gln Ser Val His Val Thr						
	580		585			590
Val Lys Val Pro Pro Phe Ile Gln Pro Phe Glu Phe Pro Arg Phe Ser						
	595		600			605
Ile Gly Gln Arg Val Phe Ile Pro Cys Val Val Val Ser Gly Asp Leu						
	610		615			620
Pro Ile Thr Ile Thr Trp Gln Lys Asp Gly Arg Pro Ile Pro Gly Ser						
	625		630			640
Leu Gly Val Thr Ile Asp Asn Ile Asp Phe Thr Ser Ser Leu Arg Ile						
	645		650			655
Ser Asn Leu Ser Leu Met His Asn Gly Asn Tyr Thr Cys Ile Ala Arg						
	660		665			670
Asn Glu Ala Ala Ala Val Glu His Gln Ser Gln Leu Ile Val Arg Val						
	675		680			685
Pro Pro Lys Phe Val Val Gln Pro Arg Asp Gln Asp Gly Ile Tyr Gly						
	690		695			700
Lys Ala Val Ile Leu Asn Cys Ser Ala Glu Gly Tyr Pro Val Pro Thr						
	705		710			720
Ile Val Trp Lys Phe Ser Lys Gly Ala Gly Val Pro Gln Phe Gln Pro						
	725		730			735
Ile Ala Leu Asn Gly Arg Ile Gln Val Leu Ser Asn Gly Ser Leu Leu						
	740		745			750
Ile Lys His Val Val Glu Glu Asp Ser Gly Tyr Tyr Leu Cys Lys Val						
	755		760			765
Ser Asn Asp Val Gly Ala Asp Val Ser Lys Ser Met Tyr Leu Thr Val						
	770		775			780
Lys Ile Pro Ala Met Ile Thr Ser Tyr Pro Asn Thr Thr Leu Ala Thr						
	785		790			800
Gln Gly Gln Lys Lys Glu Met Ser Cys Thr Ala His Gly Glu Lys Pro						

805	810	815
Ile Ile Val Arg Trp Glu Lys Glu Asp Arg Ile Ile Asn Pro Glu Met		
820	825	830
Ala Arg Tyr Leu Val Ser Thr Lys Glu Val Gly Glu Glu Val Ile Ser		
835	840	845
Thr Leu Gln Ile Leu Pro Thr Val Arg Glu Asp Ser Gly Phe Phe Ser		
850	855	860
Cys His Ala Ile Asn Ser Tyr Gly Glu Asp Arg Gly Ile Ile Gln Leu		
865	870	875
Thr Val Gln Glu Pro Pro Asp Pro Pro Glu Ile Glu Ile Lys Asp Val		
885	890	895
Lys Ala Arg Thr Ile Thr Leu Arg Trp Thr Met Gly Phe Asp Gly Asn		
900	905	910
Ser Pro Ile Thr Gly Tyr Asp Ile Glu Cys Lys Asn Lys Ser Asp Ser		
915	920	925
Trp Asp Ser Ala Gln Arg Thr Lys Asp Val Ser Pro Gln Leu Asn Ser		
930	935	940
Ala Thr Ile Ile Asp Ile His Pro Ser Ser Thr Tyr Ser Ile Arg Met		
945	950	955
Tyr Ala Lys Asn Arg Ile Gly Lys Ser Glu Pro Ser Asn Glu Leu Thr		
965	970	975
Ile Thr Ala Asp Glu Ala Ala Pro Asp Gly Pro Pro Gln Glu Val His		
980	985	990
Leu Glu Pro Ile Ser Ser Gln Ser Ile Arg Val Thr Trp Lys Ala Pro		
995	1000	1005
Lys Lys His Leu Gln Asn Gly Ile Ile Arg Gly Tyr Gln Ile Gly Tyr		
1010	1015	1020
Arg Glu Tyr Ser Thr Gly Gly Asn Phe Gln Phe Asn Ile Ile Ser Val		
1025	1030	1035
Asp Thr Ser Gly Asp Ser Glu Val Tyr Thr Leu Asp Asn Leu Asn Lys		
1045	1050	1055
Phe Thr Gln Tyr Gly Leu Val Val Gln Ala Cys Asn Arg Ala Gly Thr		

1060	1065	1070
Gly Pro Ser Ser Gln Glu Ile Ile Thr Thr Thr Leu Glu Asp Val Pro		
1075	1080	1085
Ser Tyr Pro Pro Glu Asn Val Gln Ala Ile Ala Thr Ser Pro Glu Ser		
1090	1095	1100
Ile Ser Ile Ser Trp Ser Thr Leu Ser Lys Glu Ala Leu Asn Gly Ile		
1105	1110	1115
Leu Gln Gly Phe Arg Val Ile Tyr Trp Ala Asn Leu Met Asp Gly Glu		
	1125	1130
		1135
Leu Gly Glu Ile Lys Asn Ile Thr Thr Thr Gln Pro Ser Leu Glu Leu		
	1140	1145
		1150
Asp Gly Leu Glu Lys Tyr Thr Asn Tyr Ser Ile Gln Val Leu Ala Phe		
	1155	1160
		1165
Thr Arg Ala Gly Asp Gly Val Arg Ser Glu Gln Ile Phe Thr Arg Thr		
	1170	1175
		1180
Lys Glu Asp Val Pro Gly Pro Pro Ala Gly Val Lys Ala Ala Ala Ala		
1185	1190	1195
		1200
Ser Ala Ser Met Val Phe Val Ser Trp Leu Pro Pro Leu Lys Leu Asn		
	1205	1210
		1215
Gly Ile Ile Arg Lys Tyr Thr Val Phe Cys Ser His Pro Tyr Pro Thr		
	1220	1225
		1230
Val Ile Ser Glu Phe Glu Ala Ser Pro Asp Ser Phe Ser Tyr Arg Ile		
	1235	1240
		1245
Pro Asn Leu Ser Arg Asn Arg Gln Tyr Ser Val Trp Val Val Ala Val		
	1250	1255
		1260
Thr Ser Ala Gly Arg Gly Asn Ser Ser Glu Ile Ile Thr Val Glu Pro		
1265	1270	1275
		1280
Leu Ala Lys Ala Pro Ala Arg Ile Leu Thr Phe Ser Gly Thr Val Thr		
	1285	1290
		1295
Thr Pro Trp Met Lys Asp Ile Val Leu Pro Cys Lys Ala Val Gly Asp		
	1300	1305
		1310
Pro Ser Pro Ala Val Lys Trp Met Lys Asp Ser Asn Gly Thr Pro Ser		

1315	1320	1325
Leu Val Thr Ile Asp Gly Arg Arg Ser Ile Phe Ser Asn Gly Ser Phe		
1330	1335	1340
Ile Ile Arg Thr Val Lys Ala Glu Asp Ser Gly Tyr Tyr Ser Cys Ile		
1345	1350	1355
		1360
Ala Asn Asn Asn Trp Gly Ser Asp Glu Ile Ile Leu Asn Leu Gln Val		
1365	1370	1375
Gln Val Pro Pro Asp Gln Pro Arg Leu Thr Val Ser Lys Thr Thr Ser		
1380	1385	1390
Ser Ser Ile Thr Leu Ser Trp Leu Pro Gly Asp Asn Gly Gly Ser Ser		
1395	1400	1405
Ile Arg Gly Tyr Ile Leu Gln Tyr Ser Glu Asp Asn Ser Glu Gln Trp		
1410	1415	1420
Gly Ser Phe Pro Ile Ser Pro Ser Glu Arg Ser Tyr Arg Leu Glu Asn		
1425	1430	1435
		1440
Leu Lys Cys Gly Thr Trp Tyr Lys Phe Thr Leu Thr Ala Gln Asn Gly		
1445	1450	1455
Val Gly Pro Gly Arg Ile Ser Glu Ile Ile Glu Ala Lys Thr Leu Gly		
1460	1465	1470
Lys Glu Pro Gln Phe Ser Lys Glu Gln Glu Leu Phe Ala Ser Ile Asn		
1475	1480	1485
Thr Thr Arg Val Arg Leu Asn Leu Ile Gly Trp Asn Asp Gly Gly Cys		
1490	1495	1500
Pro Ile Thr Ser Phe Thr Leu Glu Tyr Arg Pro Phe Gly Thr Thr Val		
1505	1510	1515
		1520
Trp Thr Thr Ala Gln Arg Thr Ser Leu Ser Lys Ser Tyr Ile Leu Tyr		
1525	1530	1535
Asp Leu Gln Glu Ala Thr Trp Tyr Glu Leu Gln Met Arg Val Cys Asn		
1540	1545	1550
Ser Ala Gly Cys Ala Glu Lys Gln Ala Asn Phe Ala Thr Leu Asn Tyr		
1555	1560	1565
Asp Gly Ser Thr Ile Pro Pro Leu Ile Lys Ser Val Val Gln Asn Glu		

1570	1575	1580
Glu Gly Leu Thr Thr Asn Glu Gly Leu Lys Met Leu Val Thr Ile Ser		
1585	1590	1595 1600
Cys Ile Leu Val Gly Val Leu Leu Leu Phe Val Leu Leu Leu Val Val		
1605	1610	1615
Arg Arg Arg Arg Arg Glu Gln Arg Leu Lys Arg Leu Arg Asp Ala Lys		
1620	1625	1630
Ser Leu Ala Glu Met Leu Met Ser Lys Asn Thr Arg Thr Ser Asp Thr		
1635	1640	1645
Leu Ser Lys Gln Gln Gln Thr Leu Arg Met His Ile Asp Ile Pro Arg		
1650	1655	1660
Ala Gln Leu Leu Ile Glu Glu Arg Asp Thr Met Glu Thr Ile Asp Asp		
1665	1670	1675 1680
Arg Ser Thr Val Leu Leu Thr Asp Ala Asp Phe Gly Glu Ala Ala Lys		
1685	1690	1695
Gln Lys Ser Leu Thr Val Thr His Thr Val His Tyr Gln Ser Val Ser		
1700	1705	1710
Gln Ala Thr Gly Pro Leu Val Asp Val Ser Asp Ala Arg Pro Gly Thr		
1715	1720	1725
Asn Pro Thr Thr Arg Arg Asn Ala Lys Ala Gly Pro Thr Ala Arg Asn		
1730	1735	1740
Arg Tyr Ala Ser Gln Trp Thr Leu Asn Arg Pro His Pro Thr Ile Ser		
1745	1750	1755 1760
Ala His Thr Leu Thr Thr Asp Trp Arg Leu Pro Thr Pro Arg Ala Ala		
1765	1770	1775
Gly Ser Val Asp Lys Glu Ser Asp Ser Tyr Ser Val Ser Pro Ser Gln		
1780	1785	1790
Asp Thr Asp Arg Ala Arg Ser Ser Met Val Ser Thr Glu Ser Ala Ser		
1795	1800	1805
Ser Thr Tyr Glu Glu Leu Ala Arg Ala Tyr Glu His Ala Lys Met Glu		
1810	1815	1820
Glu Gln Leu Arg His Ala Lys Phe Thr Ile Thr Glu Cys Phe Ile Ser		

1825	1830	1835	1840
Asp Thr Ser Ser Glu Gln Leu Thr Ala Gly Thr Asn Glu Tyr Thr Asp			
1845	1850	1855	
Ser Leu Thr Ser Ser Thr Pro Ser Glu Ser Gly Ile Cys Arg Phe Thr			
1860	1865	1870	
Ala Ser Pro Pro Lys Pro Gln Asp Gly Gly Arg Val Met Asn Met Ala			
1875	1880	1885	
Val Pro Lys Ala His Arg Pro Gly Asp Leu Ile His Leu Pro Pro Tyr			
1890	1895	1900	
Leu Arg Met Asp Phe Leu Leu Asn Arg Gly Gly Pro Gly Thr Ser Arg			
1905	1910	1915	1920
Asp Leu Ser Leu Gly Gln Ala Cys Leu Glu Pro Gln Lys Ser Arg Thr			
1925	1930	1935	
Leu Lys Arg Pro Thr Val Leu Glu Pro Ile Pro Met Glu Ala Ala Ser			
1940	1945	1950	
Ser Ala Ser Ser Thr Arg Glu Gly Gln Ser Trp Gln Pro Gly Ala Val			
1955	1960	1965	
Ala Thr Leu Pro Gln Arg Glu Gly Ala Glu Leu Gly Gln Ala Ala Lys			
1970	1975	1980	
Met Ser Ser Ser Gln Glu Ser Leu Leu Asp Ser Arg Gly His Leu Lys			
1985	1990	1995	2000
Gly Asn Asn Pro Tyr Ala Lys Ser Tyr Thr Leu Val			
2005	2010		

<210> 58  
 <211> 338  
 <212> PRT  
 <213> Homo sapiens

<400> 58  
 Met Val Gly Arg Val Gln Pro Asp Arg Lys Gln Leu Pro Leu Val Leu  
 1 5 10 15  
 Leu Arg Leu Leu Cys Leu Leu Pro Thr Gly Leu Pro Val Arg Ser Val  
 20 25 30

Asp Phe Asn Arg Gly Thr Asp Asn Ile Thr Val Arg Gln Gly Asp Thr  
 35 40 45  
 Ala Ile Leu Arg Cys Val Leu Glu Asp Lys Asn Ser Lys Val Ala Trp  
 50 55 60  
 Leu Asn Arg Ser Gly Ile Ile Phe Ala Gly His Asp Lys Trp Ser Leu  
 65 70 75 80  
 Asp Pro Arg Val Glu Leu Glu Lys Arg His Ser Leu Glu Tyr Ser Leu  
 85 90 95  
 Arg Ile Gln Lys Val Asp Val Tyr Asp Glu Gly Ser Tyr Thr Cys Ser  
 100 105 110  
 Val Gln Thr Gln His Glu Pro Lys Thr Ser Gln Val Tyr Leu Ile Val  
 115 120 125  
 Gln Val Pro Pro Lys Ile Ser Asn Ile Ser Ser Asp Val Thr Val Asn  
 130 135 140  
 Glu Gly Ser Asn Val Thr Leu Val Cys Met Ala Asn Gly Arg Pro Glu  
 145 150 155 160  
 Pro Val Ile Thr Trp Arg His Leu Thr Pro Thr Gly Arg Glu Phe Glu  
 165 170 175  
 Gly Glu Glu Glu Tyr Leu Glu Ile Leu Gly Ile Thr Arg Glu Gln Ser  
 180 185 190  
 Gly Lys Tyr Glu Cys Lys Ala Ala Asn Glu Val Ser Ser Ala Asp Val  
 195 200 205  
 Lys Gln Val Lys Val Thr Val Asn Tyr Pro Pro Thr Ile Thr Glu Ser  
 210 215 220  
 Lys Ser Asn Glu Ala Thr Thr Gly Arg Gln Ala Ser Leu Lys Cys Glu  
 225 230 235 240  
 Ala Ser Ala Val Pro Ala Pro Asp Phe Glu Trp Tyr Arg Asp Asp Thr  
 245 250 255  
 Arg Ile Asn Ser Ala Asn Gly Leu Glu Ile Lys Ser Thr Glu Gly Gln  
 260 265 270  
 Ser Ser Leu Thr Val Thr Asn Val Thr Glu Glu His Tyr Gly Asn Tyr  
 275 280 285

Thr Cys Val Ala Ala Asn Lys Leu Gly Val Thr Asn Ala Ser Leu Val  
 290 295 300

Leu Phe Arg Pro Gly Ser Val Arg Gly Ile Asn Gly Ser Ile Ser Leu  
 305 310 315 320

Ala Val Pro Leu Trp Leu Leu Ala Ala Ser Leu Leu Cys Leu Leu Ser  
 325 330 335

Lys Cys

<210> 59

<211> 793

<212> PRT

<213> Mus musculus

<400> 59

Met Ala Glu Pro Arg Thr Ala Ser Pro Arg Arg Leu Pro Ala Leu Arg  
 1 5 10 15

Arg Pro Gly Phe Leu Pro Pro Leu Leu Pro Pro Pro Pro Pro Pro Leu  
 20 25 30

Leu Leu Leu Leu Leu Leu Leu Pro Leu Pro Ala Pro Ser Leu Gly Leu  
 35 40 45

Gly His Ser Ala Glu Leu Ala Phe Ser Val Glu Pro Asn Asp Asp Ile  
 50 55 60

Ala Asn Pro Gly Gln Pro Ile Val Leu Gly Cys Lys Val Glu Gly Thr  
 65 70 75 80

Pro Pro Val Gln Val Ser Trp Arg Lys Asn Gly Ala Glu Leu Pro Glu  
 85 90 95

Gly Thr His Thr Thr Leu Leu Ala Asn Gly Ser Leu Leu Ile His His  
 100 105 110

Phe Arg Leu Glu Gln Gly Gly Ser Pro Ser Asp Glu Gly Asp Tyr Glu  
 115 120 125

Cys Val Ala Gln Asn Arg Phe Gly Leu Leu Val Ser Arg Lys Ala Arg  
 130 135 140

Leu Gln Ala Ala Thr Met Ser Asp Phe His Val His Pro Gln Ala Val  
 145 150 155 160



Thr Gly Glu Glu Gly Gly Val Ala Arg Phe Gln Cys Gln Ile His Gly	165	170	175
Leu Pro Lys Pro Leu Ile Thr Trp Glu Lys Asn Arg Val Pro Ile Asp	180	185	190
Thr Asp Asp Glu Arg Tyr Thr Leu Leu Pro Lys Gly Val Leu Gln Ile	195	200	205
Thr Gly Leu Arg Ala Glu Asp Ser Gly Ile Phe His Cys Val Ala Ser	210	215	220
Asn Ile Ala Ser Val Arg Val Ser His Gly Ala Arg Leu Thr Val Ser	225	230	235
Gly Ser Gly Ser Gly Thr Tyr Lys Glu Pro Thr Ile Leu Val Gly Pro	245	250	255
Glu Asn Leu Thr Leu Thr Val His Gln Thr Ala Val Leu Glu Cys Val	260	265	270
Ala Thr Gly Asn Pro Arg Pro Ile Val Ser Trp Ser Arg Leu Asp Gly	275	280	285
Arg Pro Ile Gly Val Glu Gly Ile Gln Val Leu Gly Thr Gly Asn Leu	290	295	300
Ile Ile Ser Asp Val Thr Val Gln His Ser Gly Val Tyr Val Cys Ala	305	310	315
Ala Asn Arg Pro Gly Thr Arg Val Arg Arg Thr Ala Gln Gly Arg Leu	325	330	335
Val Val Gln Ala Pro Ala Glu Phe Val Gln His Pro Gln Ser Ile Ser	340	345	350
Arg Pro Ala Gly Thr Thr Ala Met Phe Thr Cys Gln Ala Gln Gly Glu	355	360	365
Pro Pro Pro His Val Thr Trp Leu Lys Asn Gly Gln Val Leu Gly Ala	370	375	380
Gly Gly His Val Arg Leu Lys Asn Asn Asn Ser Thr Leu Ser Ile Ser	385	390	395
Gly Val Gly Pro Glu Asp Glu Ala Ile Tyr Gln Cys Val Ala Glu Asn	405	410	415

Ile	Ala	Gly	Ser	Ser	Gln	Ala	Ser	Ala	Arg	Leu	Thr	Val	Leu	Trp	Ala	420	425	430
Glu	Gly	Leu	Pro	Gly	Pro	Pro	Arg	Asn	Val	Arg	Ala	Val	Ser	Val	Ser	435	440	445
Ser	Thr	Glu	Val	Arg	Val	Ser	Trp	Ser	Glu	Pro	Leu	Ala	His	Thr	Lys	450	455	460
Glu	Ile	Ile	Gly	Tyr	Val	Leu	His	Ile	Arg	Lys	Ala	Ala	Asp	Ser	Pro	465	470	475 480
Lys	Leu	Glu	Tyr	Gln	Glu	Ala	Val	Ser	Lys	Ser	Thr	Phe	Gln	His	Leu	485	490	495
Val	Arg	Asp	Leu	Glu	Pro	Ser	Thr	Ala	Tyr	Ser	Phe	Tyr	Ile	Lys	Ala	500	505	510
Tyr	Thr	Pro	Arg	Gly	Ala	Ser	Leu	Ala	Ser	Val	Pro	Thr	Leu	Ala	Ser	515	520	525
Thr	Leu	Gly	Glu	Ala	Pro	Val	Pro	Pro	Pro	Leu	Ser	Val	Arg	Leu	Leu	530	535	540
Gly	Ser	Ser	Ser	Leu	Gln	Leu	Leu	Trp	Lys	Pro	Trp	Pro	Arg	Leu	Ala	545	550	555 560
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Leu	Ser	Gln	Leu	Asp	Pro	Ser	Thr	Val	Tyr	Glu	Val	Lys	Leu	Leu	Ala	595	600	605
Tyr	Asn	Gln	His	Gly	Asp	Gly	Asn	Ala	Thr	Val	Arg	Phe	Val	Ser	Leu	610	615	620
Lys	Gly	Ala	Ser	Glu	Arg	Thr	Gly	Ile	Val	Ile	Gly	Ile	His	Ile	Gly	625	630	635 640
Val	Thr	Cys	Ile	Ile	Phe	Cys	Val	Leu	Phe	Leu	Leu	Phe	Gly	Gln	Arg	645	650	655
Gly	Arg	Val	Leu	Leu	Cys	Lys	Asp	Val	Glu	Asn	Gln	Leu	Ser	Pro	Pro	660	665	670

Gln Gly Pro Arg Ser Gln Arg Asp Pro Gly Ile Leu Ala Leu Asn Gly  
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Leu Ser Arg Gly Glu Gly Gly Gln Leu Ser Arg Asp Glu Lys Pro Val  
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Asp Ala Lys Glu Leu Glu Gln Leu Phe Pro Thr Ala Gly Ser Ala Ala  
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Gln Pro Gly Ser Thr Pro Thr Asp Pro Ala Ala Pro Ala Pro Cys Glu  
725 730 735

Glu Thr Gln Leu Ser Met Val Gln Leu Gln Gly Phe Asn Leu Val Ala  
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Gly Arg Thr Thr Glu Ala Thr Ser Pro Cys Ala Gly Pro Gly Pro Val  
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Gln Pro Pro Ala Val Ala Ala Pro Gln  
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Asp Phe Thr Arg Gly Thr Asp Asn Ile Thr Val Arg Gln Gly Asp Thr  
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Ala Ile Leu Arg Cys Phe Val Glu Asp Arg Ser Ser Lys Val Ala Trp  
50 55 60

Leu Asn Arg Ser Gly Ile Ile Phe Ala Gly Glu Asp Lys Trp Ser Leu  
65 70 75 80

Asp Pro Arg Val Glu Leu Glu Lys Arg Ser Pro Leu Glu Tyr Ser Leu

85	90	95
Arg Ile Gln Lys Val Asp Val Tyr Asp Glu Gly Ser Tyr Thr Cys Ser		
100	105	110
Val Gln Thr Gln His His Pro Lys Thr Ser Gln Val Tyr Leu Ile Val		
115	120	125
Gln Val Pro Pro Lys Ile Ser Asn Ile Ser Ser Asp Ile Thr Val Asn		
130	135	140
Glu Gly Ser Asn Val Thr Leu Val Cys Met Ala Asn Gly Arg Pro Glu		
145	150	155
Pro Val Ile Thr Trp Arg His Leu Thr Pro Thr Gly Lys Glu Phe Glu		
165	170	175
Gly Glu Glu Glu Tyr Leu Glu Ile Leu Gly Ile Thr Arg Glu Gln Ser		
180	185	190
Gly Lys Tyr Glu Cys Lys Ala Ala Asn Glu Val Ala Ser Ala Asp Val		
195	200	205
Lys Gln Val Arg Val Thr Val Asn Tyr Pro Pro Thr Ile Thr Glu Ser		
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Lys Ser Asn Glu Ala Ala Thr Gly Arg Gln Ala Leu Leu Arg Cys Glu		
225	230	235
Ala Ser Ala Val Pro Thr Pro Asp Phe Glu Trp Tyr Arg Asp Asp Thr		
245	250	255
Arg Ile Asn Ser Ala Asn Gly Leu Glu Ile Lys Ser Thr Gly Ser Gln		
260	265	270
Ser Leu Leu Met Val Ala Asn Val Thr Glu Glu His Tyr Gly Asn Tyr		
275	280	285
Thr Cys Val Ala Ala Asn Lys Leu Gly Val Thr Asn Ala Ser Leu Tyr		
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Leu Tyr Lys Arg Val Leu Pro Thr Leu Pro Asn Pro Phe Pro Gly Pro		
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Gly Thr Gly Arg Val Asp Asn Gly Ser Val Ser Leu Ala Val Pro Leu		
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Trp Leu Leu Ala Ala Ser Leu Leu Cys Leu Leu Ser Lys Cys		

340

345

350

&lt;210&gt; 61

&lt;211&gt; 338

&lt;212&gt; PRT

&lt;213&gt; Rattus norvegicus

&lt;400&gt; 61

Met Val Gly Arg Val Gln Pro Asp Arg Lys Gln Leu Pro Leu Val Leu  
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Leu Arg Leu Leu Cys Leu Leu Pro Thr Gly Leu Pro Val Arg Ser Val  
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Asp Phe Asn Arg Gly Thr Asp Asn Ile Thr Val Arg Gln Gly Asp Thr  
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Ala Ile Leu Arg Cys Val Val Glu Asp Lys Asn Ser Lys Val Ala Trp  
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Leu Asn Arg Ser Gly Ile Ile Phe Ala Gly His Asp Lys Trp Ser Leu  
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Asp Pro Arg Val Glu Leu Glu Lys Arg His Ala Leu Glu Tyr Ser Leu  
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Arg Ile Gln Lys Val Asp Val Tyr Asp Glu Gly Ser Tyr Thr Cys Ser  
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Val Gln Thr Gln His Glu Pro Lys Thr Ser Gln Val Tyr Leu Ile Val  
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Gln Val Pro Pro Lys Ile Ser Asn Ile Ser Ser Asp Val Thr Val Asn  
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Glu Gly Ser Asn Val Thr Leu Val Cys Met Ala Asn Gly Arg Pro Glu  
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Gly Glu Glu Glu Tyr Leu Glu Ile Leu Gly Ile Thr Arg Glu Gln Ser  
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Gly Lys Tyr Glu Cys Lys Ala Ala Asn Glu Val Ser Ser Ala Asp Val  
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Lys Gln Val Lys Val Thr Val Asn Tyr Pro Pro Thr Ile Thr Glu Ser  
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Lys Ser Asn Glu Ala Thr Thr Gly Arg Gln Ala Ser Leu Lys Cys Glu  
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Ala Ser Ala Val Pro Ala Pro Asp Phe Glu Trp Tyr Arg Asp Asp Thr  
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Arg Ile Asn Ser Ala Asn Gly Leu Glu Ile Lys Ser Thr Glu Gly Gln  
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Ser Ser Leu Thr Val Thr Asn Val Thr Glu Glu His Tyr Gly Asn Tyr  
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Thr Cys Val Ala Ala Asn Lys Leu Gly Val Thr Asn Ala Ser Leu Val  
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Lys Cys

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Lys	Tyr	Cys	Ser	Trp	Lys	Cys	Ala	Ala	Leu	Ser	Ala	Ile	Ala	Ala	Ala	370	375	380
Leu	Leu	Leu	Ala	Ile	Leu	Leu	Ala	Tyr	Phe	Ile	Ala	Met	His	Leu	Leu	385	390	395
Gly	Leu	Asn	Trp	Gln	Leu	Gln	Pro	Ala	Asp	Gly	His	Thr	Phe	Asn	Asn	405	410	415
Gly	Val	Arg	Thr	Gly	Leu	Pro	Gly	Asn	Asp	Asp	Val	Ala	Thr	Val	Pro	420	425	430
Ser	Gly	Gly	Lys	Val	Pro	Trp	Ser	Leu	Lys	Asn	Ser	Ser	Ile	Asp	Ser	435	440	445
Gly	Glu	Ala	Glu	Val	Gly	Arg	Arg	Val	Thr	Gln	Glu	Val	Pro	Pro	Gly	450	455	460
Val	Phe	Trp	Arg	Ser	Gln	Ile	His	Ile	Ser	Gln	Pro	Gln	Phe	Leu	Lys	465	470	475
Phe	Asn	Ile	Ser	Leu	Gly	Lys	Asp	Ala	Leu	Phe	Gly	Val	Tyr	Ile	Arg	485	490	495
Arg	Gly	Leu	Pro	Pro	Ser	His	Ala	Gln	Tyr	Asp	Phe	Met	Glu	Arg	Leu	500	505	510
Asp	Gly	Lys	Glu	Lys	Trp	Ser	Val	Val	Glu	Ser	Pro	Arg	Glu	Arg	Arg	515	520	525



Ser Ile Gln Thr Leu Val Gln Asn Glu Ala Val Phe Val Gln Tyr Leu  
 530 535 540

Asp Val Gly Leu Trp His Leu Ala Phe Tyr Asn Asp Gly Lys Asp Lys  
 545 550 555 560

Glu Met Val Ser Phe Asn Thr Val Val Leu Asp Ser Val Gln Asp Cys  
 565 570 575

Pro Arg Asn Cys His Gly Asn Gly Glu Cys Val Ser Gly Leu Cys His  
 580 585 590

Cys Phe Pro Gly Phe Leu Gly Ala Asp Cys Ala Lys Ala Ala Cys Pro  
 595 600 605

Val Leu Cys Ser Gly Asn Gly Gln Tyr Ser Lys Gly Thr Cys Gln Cys  
 610 615 620

Tyr Ser Gly Trp Lys Gly Ala Glu Cys Asp Val Pro Met Asn Gln Cys  
 625 630 635 640

Ile Asp Pro Ser Cys Gly Gly His Gly Ser Cys Ile Asp Gly Asn Cys  
 645 650 655

Val Cys Ala Ala Gly Tyr Lys Gly Glu His Cys Glu Glu Val Asp Cys  
 660 665 670

Leu Asp Pro Thr Cys Ser Ser His Gly Val Cys Val Asn Gly Glu Cys  
 675 680 685

Leu Cys Ser Pro Gly Trp Gly Gly Leu Asn Cys Glu Leu Ala Arg Val  
 690 695 700

Gln Cys Pro Asp Gln Cys Ser Gly His Gly Thr Tyr Leu Pro Asp Ser  
 705 710 715 720

Gly Leu Cys Ser Cys Asp Pro Asn Trp Met Gly Pro Asp Cys Ser Val  
 725 730 735

Val Cys Ser Val Asp Cys Gly Thr His Gly Val Cys Ile Gly Gly Ala  
 740 745 750

Cys Arg Cys Glu Glu Gly Trp Thr Gly Ala Ala Cys Asp Gln Arg Val  
 755 760 765

Cys His Pro Arg Cys Ile Glu His Gly Thr Cys Lys Asp Gly Lys Cys  
 770 775 780

Glu Cys Arg Glu Gly Trp Asn Gly Glu His Cys Thr Ile Asp Gly Cys			
785	790	795	800
Pro Asp Leu Cys Asn Gly Asn Gly Arg Cys Thr Leu Gly Gln Asn Ser			
	805	810	815
Trp Gln Cys Val Cys Gln Thr Gly Trp Arg Gly Pro Gly Cys Asn Val			
	820	825	830
Ala Met Glu Thr Ser Cys Ala Asp Asn Lys Asp Asn Glu Gly Asp Gly			
	835	840	845
Leu Val Asp Cys Leu Asp Pro Asp Cys Cys Leu Gln Ser Ala Cys Gln			
	850	855	860
Asn Ser Leu Leu Cys Arg Gly Ser Arg Asp Pro Leu Asp Ile Ile Gln			
865	870	875	880
Gln Gly Gln Thr Asp Trp Pro Ala Val Lys Ser Phe Tyr Asp Arg Ile			
	885	890	895
Lys Leu Leu Ala Gly Lys Asp Ser Thr His Ile Ile Pro Gly Asp Asn			
	900	905	910
Pro Phe Asn Ser Ser Leu Val Ser Leu Ile Arg Gly Gln Val Val Thr			
	915	920	925
Met Asp Gly Thr Pro Leu Val Gly Val Asn Val Ser Phe Val Lys Tyr			
	930	935	940
Pro Lys Tyr Gly Tyr Thr Ile Thr Arg Gln Asp Gly Thr Phe Asp Leu			
945	950	955	960
Ile Ala Asn Gly Gly Ser Ala Leu Thr Leu His Phe Glu Arg Ala Pro			
	965	970	975
Phe Met Ser Gln Glu Arg Thr Val Trp Leu Pro Trp Asn Ser Phe Tyr			
	980	985	990
Ala Met Asp Thr Leu Val Met Lys Thr Glu Glu Asn Ser Ile Pro Ser			
	995	1000	1005
Cys Asp Leu Ser Gly Phe Val Arg Pro Asp Pro Ile Ile Ile Ser Ser			
1010	1015	1020	
Pro Leu Ser Thr Phe Phe Ser Ala Ser Pro Ala Ser Asn Pro Ile Val			
1025	1030	1035	1040

Pro Glu Thr Gln Val Leu His Glu Glu Ile Glu Leu Pro Gly Thr Asn			
1045	1050	1055	
Val Lys Leu Arg Tyr Leu Ser Ser Arg Thr Ala Gly Tyr Lys Ser Leu			
1060	1065	1070	
Leu Lys Ile Thr Met Thr Gln Ser Thr Val Pro Leu Asn Leu Ile Arg			
1075	1080	1085	
Val His Leu Met Val Ala Val Glu Gly His Leu Phe Gln Lys Ser Phe			
1090	1095	1100	
Gln Ala Ser Pro Asn Leu Ala Tyr Thr Phe Ile Trp Asp Lys Thr Asp			
1105	1110	1115	1120
Ala Tyr Gly Gln Arg Val Tyr Gly Leu Ser Asp Ala Val Val Ser Val			
1125	1130	1135	
Gly Phe Glu Tyr Glu Thr Cys Pro Ser Leu Ile Leu Trp Glu Lys Arg			
1140	1145	1150	
Thr Ala Leu Leu Gln Gly Phe Glu Leu Asp Pro Ser Asn Leu Gly Gly			
1155	1160	1165	
Trp Ser Leu Asp Lys His His Thr Leu Asn Val Lys Ser Gly Ile Leu			
1170	1175	1180	
His Lys Gly Thr Gly Glu Asn Gln Phe Leu Thr Gln Gln Pro Ala Ile			
1185	1190	1195	1200
Ile Thr Ser Ile Met Gly Asn Gly Arg Arg Arg Ser Ile Ser Cys Pro			
1205	1210	1215	
Ser Cys Asn Gly Leu Ala Glu Gly Asn Lys Leu Leu Ala Pro Val Ala			
1220	1225	1230	
Leu Ala Val Gly Ile Asp Gly Ser Leu Phe Val Gly Asp Phe Asn Tyr			
1235	1240	1245	
Ile Arg Arg Ile Phe Pro Ser Arg Asn Val Thr Ser Ile Leu Glu Leu			
1250	1255	1260	
Arg Asn Lys Glu Phe Lys His Ser Asn Ser Pro Gly His Lys Tyr Tyr			
1265	1270	1275	1280
Leu Ala Val Asp Pro Val Thr Gly Ser Leu Tyr Val Ser Asp Thr Asn			
1285	1290	1295	

Ser Arg Arg Ile Tyr Arg Val Lys Ser Leu Ser Gly Ala Lys Asp Leu  
 1300 1305 1310

Ala Gly Asn Ser Glu Val Val Ala Gly Thr Gly Glu Gln Cys Leu Pro  
 1315 1320 1325

Phe Asp Glu Ala Arg Cys Gly Asp Gly Gly Lys Ala Val Asp Ala Thr  
 1330 1335 1340

Leu Met Ser Pro Arg Gly Ile Ala Val Asp Lys Asn Gly Leu Met Tyr  
 1345 1350 1355 1360

Phe Val Asp Ala Thr Met Ile Arg Lys Val Asp Gln Asn Gly Ile Ile  
 1365 1370 1375

Ser Thr Leu Leu Gly Ser Asn Asp Leu Thr Ala Val Arg Pro Leu Ser  
 1380 1385 1390

Cys Asp Ser Ser Met Asp Val Ala Gln Val Arg Leu Glu Trp Pro Thr  
 1395 1400 1405

Asp Leu Ala Val Asn Pro Met Asp Asn Ser Leu Tyr Val Leu Glu Asn  
 1410 1415 1420

Asn Val Ile Leu Arg Ile Thr Glu Asn His Gln Val Ser Ile Ile Ala  
 1425 1430 1435 1440

Gly Arg Pro Met His Cys Gln Val Pro Gly Ile Asp Tyr Ser Leu Ser  
 1445 1450 1455

Lys Leu Ala Ile His Ser Ala Leu Glu Ser Ala Ser Ala Ile Ala Ile  
 1460 1465 1470

Ser His Thr Gly Val Leu Tyr Ile Thr Glu Thr Asp Glu Lys Lys Ile  
 1475 1480 1485

Asn Arg Leu Arg Gln Val Thr Thr Asn Gly Glu Ile Cys Leu Leu Ala  
 1490 1495 1500

Gly Ala Ala Ser Asp Cys Asp Cys Lys Asn Asp Val Asn Cys Ile Cys  
 1505 1510 1515 1520

Tyr Ser Gly Asp Asp Ala Tyr Ala Thr Asp Ala Ile Leu Asn Ser Pro  
 1525 1530 1535

Ser Ser Leu Ala Val Ala Pro Asp Gly Thr Ile Tyr Ile Ala Asp Leu  
 1540 1545 1550

Gly Asn Ile Arg Ile Arg Ala Val Ser Lys Asn Lys Pro Val Leu Asn			
1555	1560	1565	
Ala Phe Asn Gln Tyr Glu Ala Ala Ser Pro Gly Glu Gln Glu Leu Tyr			
1570	1575	1580	
Val Phe Asn Ala Asp Gly Ile His Gln Tyr Thr Val Ser Leu Val Thr			
1585	1590	1595	1600
Gly Glu Tyr Leu Tyr Asn Phe Thr Tyr Ser Ala Asp Asn Asp Val Thr			
	1605	1610	1615
Glu Leu Ile Asp Asn Asn Gly Asn Ser Leu Lys Ile Arg Arg Asp Ser			
	1620	1625	1630
Ser Gly Met Pro Arg His Leu Leu Met Pro Asp Asn Gln Ile Ile Thr			
	1635	1640	1645
Leu Thr Val Gly Thr Asn Gly Gly Leu Lys Ala Val Ser Thr Gln Asn			
	1650	1655	1660
Leu Glu Leu Gly Leu Met Thr Tyr Asp Gly Asn Thr Gly Leu Leu Ala			
1665	1670	1675	1680
Thr Lys Ser Asp Glu Thr Gly Trp Thr Thr Phe Tyr Asp Tyr Asp His			
	1685	1690	1695
Glu Gly Arg Leu Thr Asn Val Thr Arg Pro Thr Gly Val Val Thr Ser			
	1700	1705	1710
Leu His Arg Glu Met Glu Lys Ser Ile Thr Ile Asp Ile Glu Asn Ser			
	1715	1720	1725
Asn Arg Asp Asp Asp Val Thr Val Ile Thr Asn Leu Ser Ser Val Glu			
	1730	1735	1740
Ala Ser Tyr Thr Val Val Gln Asp Gln Val Arg Asn Ser Tyr Gln Leu			
1745	1750	1755	1760
Cys Asn Asn Gly Thr Leu Arg Val Met Tyr Ala Asn Gly Met Ala Val			
	1765	1770	1775
Ser Phe His Ser Glu Pro His Val Leu Ala Gly Thr Ile Thr Pro Thr			
	1780	1785	1790
Ile Gly Arg Cys Asn Ile Ser Leu Pro Met Glu Asn Gly Leu Asn Ser			
	1795	1800	1805

Ile Glu Trp Arg Leu Arg Lys Glu Gln Ile Lys Gly Lys Val Thr Ile			
1810	1815	1820	
Phe Gly Arg Lys Leu Arg Val His Gly Arg Asn Leu Leu Ser Ile Asp			
1825	1830	1835	1840
Tyr Asp Arg Asn Ile Arg Thr Glu Lys Ile Tyr Asp Asp His Arg Lys			
	1845	1850	1855
Phe Thr Leu Arg Ile Ile Tyr Asp Gln Val Gly Arg Pro Phe Leu Trp			
	1860	1865	1870
Leu Pro Ser Ser Gly Leu Ala Ala Val Asn Val Ser Tyr Phe Phe Asn			
	1875	1880	1885
Gly Arg Leu Ala Gly Leu Gln Arg Gly Ala Met Ser Glu Arg Thr Asp			
	1890	1895	1900
Ile Asp Lys Gln Gly Arg Ile Val Ser Arg Met Phe Ala Asp Gly Lys			
1905	1910	1915	1920
Val Trp Ser Tyr Ser Tyr Leu Asp Lys Ser Met Val Leu Leu Leu Gln			
	1925	1930	1935
Ser Gln Arg Gln Tyr Ile Phe Glu Tyr Asp Ser Ser Asp Arg Leu His			
	1940	1945	1950
Ala Val Thr Met Pro Ser Val Ala Arg His Ser Met Ser Thr His Thr			
	1955	1960	1965
Ser Ile Gly Tyr Ile Arg Asn Ile Tyr Asn Pro Pro Glu Ser Asn Ala			
	1970	1975	1980
Ser Val Ile Phe Asp Tyr Ser Asp Asp Gly Arg Ile Leu Lys Thr Ser			
1985	1990	1995	2000
Phe Leu Gly Thr Gly Arg Gln Val Phe Tyr Lys Tyr Gly Lys Leu Ser			
	2005	2010	2015
Lys Leu Ser Glu Ile Val Tyr Asp Ser Thr Ala Val Thr Phe Gly Tyr			
	2020	2025	2030
Asp Glu Thr Thr Gly Val Leu Lys Met Val Asn Leu Gln Ser Gly Gly			
	2035	2040	2045
Phe Ser Cys Thr Ile Arg Tyr Arg Lys Val Gly Pro Leu Val Asp Lys			
	2050	2055	2060

Gln Ile Tyr Arg Phe Ser Glu Glu Gly Met Ile Asn Ala Arg Phe Asp			
2065	2070	2075	2080
Tyr Thr Tyr His Asp Asn Ser Phe Arg Ile Ala Ser Ile Lys Pro Val			
	2085	2090	2095
Ile Ser Glu Thr Pro Leu Pro Val Asp Leu Tyr Arg Tyr Asp Glu Ile			
	2100	2105	2110
Ser Gly Lys Val Glu His Phe Gly Lys Phe Gly Val Ile Tyr Tyr Asp			
	2115	2120	2125
Ile Asn Gln Ile Ile Thr Thr Ala Val Met Thr Leu Ser Lys His Phe			
	2130	2135	2140
Asp Thr His Gly Arg Ile Lys Glu Val Gln Tyr Glu Met Phe Arg Ser			
2145	2150	2155	2160
Leu Met Tyr Trp Met Thr Val Gln Tyr Asp Ser Met Gly Arg Val Ile			
	2165	2170	2175
Lys Arg Glu Leu Lys Leu Gly Pro Tyr Ala Asn Thr Thr Lys Tyr Thr			
	2180	2185	2190
Tyr Asp Tyr Asp Gly Asp Gly Gln Leu Gln Ser Val Ala Val Asn Asp			
	2195	2200	2205
Arg Pro Thr Trp Arg Tyr Ser Tyr Asp Leu Asn Gly Asn Leu His Leu			
	2210	2215	2220
Leu Asn Pro Gly Asn Ser Ala Arg Leu Met Pro Leu Arg Tyr Asp Leu			
2225	2230	2235	2240
Arg Asp Arg Ile Thr Arg Leu Gly Asp Val Gln Tyr Lys Ile Asp Asp			
	2245	2250	2255
Asp Gly Tyr Leu Cys Gln Arg Gly Ser Asp Ile Phe Glu Tyr Asn Ser			
	2260	2265	2270
Lys Gly Leu Leu Thr Arg Ala Tyr Asn Lys Ala Ser Gly Trp Ser Val			
	2275	2280	2285
Gln Tyr Arg Tyr Asp Gly Val Gly Arg Arg Ala Ser Tyr Lys Thr Asn			
	2290	2295	2300
Leu Gly His His Leu Gln Tyr Phe Tyr Ser Asp Leu His Asn Pro Thr			
2305	2310	2315	2320

Arg Ile Thr His Val Tyr Asn His Ser Asn Ser Glu Ile Thr Ser Leu			
2325	2330	2335	
Tyr Tyr Asp Leu Gln Gly His Leu Phe Ala Met Glu Ser Ser Ser Gly			
2340	2345	2350	
Glu Glu Tyr Tyr Val Ala Ser Asp Asn Thr Gly Thr Pro Leu Ala Val			
2355	2360	2365	
Tyr Ser Ile Asn Gly Leu Met Ile Lys Gln Leu Gln Tyr Thr Ala Tyr			
2370	2375	2380	
Gly Glu Ile Tyr Tyr Asp Ser Asn Pro Asp Phe Gln Met Val Ile Gly			
2385	2390	2395	2400
Phe His Gly Gly Leu Tyr Asp Pro Leu Thr Lys Leu Val His Phe Thr			
2405	2410	2415	
Gln Arg Asp Tyr Asp Val Leu Ala Gly Arg Trp Thr Ser Pro Asp Tyr			
2420	2425	2430	
Thr Met Trp Arg Asn Val Gly Lys Glu Pro Ala Pro Phe Asn Leu Tyr			
2435	2440	2445	
Met Phe Lys Asn Asn Asn Pro Leu Ser Asn Glu Leu Asp Leu Lys Asn			
2450	2455	2460	
Tyr Val Thr Asp Val Lys Ser Trp Leu Val Met Phe Gly Phe Gln Leu			
2465	2470	2475	2480
Ser Asn Ile Ile Pro Gly Phe Pro Arg Ala Lys Met Tyr Phe Val Pro			
2485	2490	2495	
Pro Pro Tyr Glu Leu Ser Glu Ser Gln Ala Ser Glu Asn Gly Gln Leu			
2500	2505	2510	
Ile Thr Gly Val Gln Gln Thr Thr Glu Arg His Asn Gln Ala Phe Leu			
2515	2520	2525	
Ala Leu Glu Gly Gln Val Ile Thr Lys Lys Leu His Ala Ser Ile Arg			
2530	2535	2540	
Glu Lys Ala Gly His Trp Phe Ala Thr Thr Thr Pro Ile Ile Gly Lys			
2545	2550	2555	2560
Gly Ile Met Phe Ala Ile Lys Glu Gly Arg Val Thr Thr Gly Val Ser			
2565	2570	2575	



Ser Ile Ala Ser Glu Asp Ser Arg Lys Val Ala Ser Val Leu Asn Asn  
2580 2585 2590

Ala Tyr Tyr Leu Asp Lys Met His Tyr Ser Ile Glu Gly Lys Asp Thr  
2595 2600 2605

His Tyr Phe Val Lys Ile Gly Ala Ala Asp Gly Asp Leu Val Thr Leu  
2610 2615 2620

Gly Thr Thr Ile Gly Arg Lys Val Leu Glu Ser Gly Val Asn Val Thr  
2625 2630 2635 2640

Val Ser Gln Pro Thr Leu Leu Val Asn Gly Arg Thr Arg Arg Phe Thr  
2645 2650 2655

Asn Ile Glu Phe Gln Tyr Ser Thr Leu Leu Leu Ser Ile Arg Tyr Gly  
2660 2665 2670

Leu Thr Pro Asp Thr Leu Asp Glu Glu Lys Ala Arg Val Leu Asp Gln  
2675 2680 2685

Ala Gly Gln Arg Ala Leu Gly Thr Ala Trp Ala Lys Glu Gln Gln Lys  
2690 2695 2700

Ala Arg Asp Gly Arg Glu Gly Ser Arg Leu Trp Thr Glu Gly Glu Lys  
2705 2710 2715 2720

Gln Gln Leu Leu Ser Thr Gly Arg Val Gln Gly Tyr Glu Gly Tyr Tyr  
2725 2730 2735

Val Leu Pro Val Glu Gln Tyr Pro Glu Leu Ala Asp Ser Ser Ser Asn  
2740 2745 2750

Ile Gln Phe Leu Arg Gln Asn Glu Met Gly Lys Arg  
2755 2760

<210> 69  
<211> 2802  
<212> PRT  
<213> Gallus gallus

<400> 69  
Met Asp Ile Lys Asp Arg Arg His Arg Ser Leu Thr Arg Gly Arg Cys  
1 5 10 15

Gly Lys Glu Cys Arg Tyr Thr Ser Ser Ser Leu Asp Ser Glu Asp Cys

20	25	30
Arg Val Pro Ala Gln Lys Ser Tyr Ser Ser Ser Glu Thr Leu Lys Ala		
35	40	45
Tyr Gly His Asp Thr Arg Met His Tyr Gly Asn Arg Val Ser Asp Leu		
50	55	60
Val His Arg Glu Ser Asp Glu Phe Pro Arg Gln Gly Thr Asn Phe Thr		
65	70	75
Leu Ala Glu Leu Gly Ile Cys Glu Pro Ser Pro His Arg Ser Gly Tyr		
85	90	95
Cys Ser Asp Ile Gly Ile Leu His Gln Gly Tyr Ser Leu Ser Thr Gly		
100	105	110
Ser Asp Ala Asp Ser Asp Thr Glu Gly Gly Met Ser Pro Glu His Ala		
115	120	125
Ile Arg Leu Trp Gly Arg Gly Ile Lys Ser Ser Arg Ser Ser Gly Leu		
130	135	140
Ser Ser Arg Glu Asn Ser Ala Leu Thr Leu Thr Asp Ser Asp Asn Glu		
145	150	155
Asn Lys Ser Asp Glu Glu Asn Asp Phe His Thr His Leu Ser Glu Lys		
165	170	175
Leu Lys Asp Arg Gln Thr Ser Trp Gln Gln Leu Ala Glu Thr Lys Asn		
180	185	190
Ser Leu Ile Arg Arg Pro Ile Pro Pro Thr Ser Ser Ser Ser Leu Leu		
195	200	205
Pro Ser Ala Gln Leu Pro Ser Ser His Asn Pro Pro Pro Val Ser Cys		
210	215	220
Gln Met Pro Leu Leu Asp Ser Asn Thr Ser His Gln Ile Met Asp Thr		
225	230	235
Asn Pro Asp Glu Glu Phe Ser Pro Asn Ser Tyr Leu Leu Arg Ala Cys		
245	250	255
Ser Gly Pro Gln Gln Ala Ser Ser Ser Gly Pro Ser Asn His His Ser		
260	265	270
Gln Ser Thr Leu Arg Pro Pro Leu Pro Pro Pro His Asn His Ser Leu		

275		280		285
Ser His His His Ser Ser	Ala Asn Ser Leu Asn Arg Asn Ser Leu Thr			
290	295	300		
Asn Arg Arg Asn Gln Ile His Ala Pro Ala Pro Ala Pro Asn Asp Leu				
305	310	315		320
Ala Thr Thr Pro Glu Ser Val Gln Leu Gln Asp Ser Trp Val Leu Asn				
	325	330		335
Ser Asn Val Pro Leu Glu Thr Arg His Phe Leu Phe Lys Thr Ser Ser				
	340	345		350
Gly Thr Thr Pro Leu Phe Ser Ser Ser Ser Pro Gly Tyr Pro Leu Thr				
	355	360		365
Ser Gly Thr Val Tyr Thr Pro Pro Pro Arg Leu Leu Pro Arg Asn Thr				
	370	375		380
Phe Ser Arg Asn Ala Phe Lys Leu Lys Lys Pro Ser Lys Tyr Cys Ser				
385	390	395		400
Trp Lys Cys Ala Ala Leu Ser Ala Ile Ala Ala Ala Val Leu Leu Ala				
	405	410		415
Ile Leu Leu Ala Tyr Phe Ile Ala Met His Leu Leu Gly Leu Asn Trp				
	420	425		430
Gln Leu Gln Pro Ala Asp Gly His Thr Phe Ser Asn Gly Leu Arg Pro				
	435	440		445
Gly Ala Ala Gly Ala Glu Asp Gly Ala Ala Ala Pro Pro Ala Gly Arg				
	450	455		460
Gly Pro Trp Val Thr Arg Asn Ser Ser Ile Asp Ser Gly Glu Thr Glu				
465	470	475		480
Val Gly Arg Lys Val Thr Gln Glu Val Pro Pro Gly Val Phe Trp Arg				
	485	490		495
Ser Gln Ile His Ile Ser Gln Pro Gln Phe Leu Lys Phe Asn Ile Ser				
	500	505		510
Leu Gly Lys Asp Ala Leu Phe Gly Val Tyr Ile Arg Arg Gly Leu Pro				
	515	520		525
Pro Ser His Ala Gln Tyr Asp Phe Met Glu Arg Leu Asp Gly Lys Glu				

530		535		540
Lys Trp Ser Val Val Glu Ser Pro Arg Glu Arg Arg Ser Ile Gln Thr				
545		550		555
				560
Leu Val Gln Asn Glu Ala Val Phe Val Gln Tyr Leu Asp Val Gly Leu				
	565		570	575
Trp His Leu Ala Phe Tyr Asn Asp Gly Lys Asp Lys Glu Val Val Ser				
	580		585	590
Phe Ser Thr Val Ile Leu Asp Ser Val Gln Asp Cys Pro Arg Asn Cys				
	595		600	605
His Gly Asn Gly Glu Cys Val Ser Gly Val Cys His Cys Phe Pro Gly				
	610		615	620
Phe His Gly Ala Asp Cys Ala Lys Ala Ala Cys Pro Val Leu Cys Ser				
	625		630	635
				640
Gly Asn Gly Gln Tyr Ser Lys Gly Thr Cys Leu Cys Tyr Ser Gly Trp				
	645		650	655
Lys Gly Pro Glu Cys Asp Val Pro Ile Ser Gln Cys Ile Asp Pro Ser				
	660		665	670
Cys Gly Gly His Gly Ser Cys Ile Glu Gly Asn Cys Val Cys Ser Ile				
	675		680	685
Gly Tyr Lys Gly Glu Asn Cys Glu Glu Val Asp Cys Leu Asp Pro Thr				
	690		695	700
Cys Ser Asn His Gly Val Cys Val Asn Gly Glu Cys Leu Cys Ser Pro				
	705		710	715
				720
Gly Trp Gly Gly Ile Asn Cys Glu Leu Pro Arg Ala Gln Cys Pro Asp				
	725		730	735
Gln Cys Ser Gly His Gly Thr Tyr Leu Ser Asp Thr Gly Leu Cys Ser				
	740		745	750
Cys Asp Pro Asn Trp Met Gly Pro Asp Cys Ser Val Glu Val Cys Ser				
	755		760	765
Val Asp Cys Gly Thr His Gly Val Cys Ile Gly Gly Ala Cys Arg Cys				
	770		775	780
Glu Glu Gly Trp Thr Gly Val Ala Cys Asp Gln Arg Val Cys His Pro				

785		790		795		800
Arg Cys Thr Glu His Gly Thr Cys Lys Asp Gly Lys Cys Glu Cys Arg						
	805		810		815	
Glu Gly Trp Asn Gly Glu His Cys Thr Ile Gly Arg Gln Thr Thr Gly						
	820		825		830	
Thr Glu Thr Asp Gly Cys Pro Asp Leu Cys Asn Gly Asn Gly Arg Cys						
	835		840		845	
Thr Leu Gly Gln Asn Ser Trp Gln Cys Val Cys Gln Thr Gly Trp Arg						
	850		855		860	
Gly Pro Gly Cys Asn Val Ala Met Glu Thr Ser Cys Ala Asp Asn Lys						
	865		870		875	880
Asp Asn Glu Gly Asp Gly Leu Val Asp Cys Leu Val Pro Asp Cys Cys						
	885		890		895	
Leu Gln Ser Thr Cys Gln Asn Ser Leu Leu Cys Arg Gly Ser Arg Asp						
	900		905		910	
Pro Leu Asp Ile Ile Gln Gln Ser His Ser Gly Ser Pro Ala Val Lys						
	915		920		925	
Ser Phe Tyr Asp Arg Ile Lys Leu Leu Val Gly Lys Asp Ser Thr His						
	930		935		940	
Ile Ile Pro Gly Glu Asn Pro Phe Asn Ser Ser Leu Val Ser Leu Ile						
	945		950		955	960
Arg Gly Gln Val Val Thr Thr Asp Gly Thr Pro Leu Val Gly Val Asn						
	965		970		975	
Val Ser Phe Val Lys Tyr Pro Lys Tyr Gly Tyr Thr Ile Thr Arg Gln						
	980		985		990	
Asp Gly Met Phe Asp Leu Val Ala Asn Gly Gly Ser Ser Leu Thr Leu						
	995		1000		1005	
His Phe Glu Arg Ala Pro Phe Met Ser Gln Glu Arg Thr Val Trp Leu						
	1010		1015		1020	
Pro Trp Asn Ser Phe Tyr Ala Met Asp Thr Leu Val Met Lys Thr Glu						
	1025		1030		1035	1040
Glu Asn Ser Ile Pro Ser Cys Asp Leu Ser Gly Phe Val Arg Pro Asp						

1045	1050	1055
Pro Val Ile Ile Ser Ser Pro Leu Ser Thr Phe Phe Ser Asp Ala Pro		
1060	1065	1070
Gly Arg Asn Pro Ile Val Pro Glu Thr Gln Val Leu His Glu Glu Ile		
1075	1080	1085
Glu Val Pro Gly Ser Ser Ile Lys Leu Ile Tyr Leu Ser Ser Arg Thr		
1090	1095	1100
Ala Gly Tyr Lys Ser Leu Leu Lys Ile Ile Met Thr Gln Ser Leu Val		
1105	1110	1115
Pro Leu Asn Leu Ile Lys Val His Leu Met Val Ala Val Glu Gly His		
1125	1130	1135
Leu Phe Gln Lys Ser Phe Leu Ala Ser Pro Asn Leu Ala Tyr Thr Phe		
1140	1145	1150
Ile Trp Asp Lys Thr Asp Ala Tyr Gly Gln Lys Val Tyr Gly Leu Ser		
1155	1160	1165
Asp Ala Val Val Ser Val Gly Phe Glu Tyr Glu Thr Cys Pro Ser Leu		
1170	1175	1180
Ile Leu Trp Glu Lys Arg Thr Ala Leu Leu Gln Gly Phe Glu Leu Asp		
1185	1190	1195
Pro Ser Asn Leu Gly Gly Trp Ser Leu Asp Lys His His Val Leu Asn		
1205	1210	1215
Val Lys Ser Gly Ile Leu His Lys Gly Asn Gly Glu Asn Gln Phe Leu		
1220	1225	1230
Thr Gln Gln Pro Ala Val Ile Thr Ser Ile Met Gly Asn Gly Arg Arg		
1235	1240	1245
Arg Ser Ile Ser Cys Pro Ser Cys Asn Gly Leu Ala Glu Gly Asn Lys		
1250	1255	1260
Leu Leu Ala Pro Val Ala Leu Ala Val Gly Ile Asp Gly Ser Leu Phe		
1265	1270	1275
Val Gly Asp Phe Asn Tyr Ile Arg Arg Ile Phe Pro Ser Arg Asn Val		
1285	1290	1295
Thr Ser Ile Leu Glu Leu Arg Asn Lys Glu Phe Lys His Ser Asn Asn		

1300	1305	1310
Pro Ala His Lys Tyr Tyr Leu Ala Val Asp Pro Val Ser Gly Ser Leu		
1315	1320	1325
Tyr Val Ser Asp Thr Asn Ser Arg Arg Ile Tyr Lys Val Lys Ser Leu		
1330	1335	1340
Thr Gly Thr Lys Asp Leu Ala Gly Asn Ser Glu Val Val Ala Gly Thr		
1345	1350	1355
Gly Glu Gln Cys Leu Pro Phe Asp Glu Ala Arg Cys Gly Asp Gly Gly		
1365	1370	1375
Lys Ala Val Asp Ala Thr Leu Met Ser Pro Arg Gly Ile Ala Val Asp		
1380	1385	1390
Lys Tyr Gly Leu Met Tyr Phe Val Asp Ala Thr Met Ile Arg Lys Val		
1395	1400	1405
Asp Gln Asn Gly Ile Ile Ser Thr Leu Leu Gly Ser Asn Asp Leu Thr		
1410	1415	1420
Ala Val Arg Pro Leu Ser Cys Asp Ser Ser Met Asp Val Ser Gln Val		
1425	1430	1435
Arg Leu Glu Trp Pro Thr Asp Leu Ala Val Asp Pro Met Asp Asn Ser		
1445	1450	1455
Leu Tyr Val Leu Glu Asn Asn Val Ile Leu Arg Ile Thr Glu Asn His		
1460	1465	1470
Gln Val Ser Ile Ile Ala Gly Arg Pro Met His Cys Gln Val Pro Gly		
1475	1480	1485
Ile Asp Tyr Ser Leu Ser Lys Leu Ala Ile His Ser Ala Leu Glu Ser		
1490	1495	1500
Ala Ser Ala Ile Ala Ile Ser His Thr Gly Val Leu Tyr Ile Ser Glu		
1505	1510	1515
Thr Asp Glu Lys Lys Ile Asn Arg Leu Arg Gln Val Thr Thr Asn Gly		
1525	1530	1535
Glu Ile Cys Leu Leu Ala Gly Ala Ala Ser Asp Cys Asp Cys Lys Asn		
1540	1545	1550
Asp Val Asn Cys Asn Cys Tyr Ser Gly Asp Asp Gly Tyr Ala Thr Asp		

1555	1560	1565
Ala Ile Leu Asn Ser Pro Ser Ser Leu Ala Val Ala Pro Asp Gly Thr		
1570	1575	1580
Ile Tyr Ile Ala Asp Leu Gly Asn Ile Arg Ile Arg Ala Val Ser Lys		
1585	1590	1595 1600
Asn Arg Pro Ile Leu Asn Ser Phe Asn Gln Tyr Glu Ala Ala Ser Pro		
1605	1610	1615
Gly Glu Gln Glu Leu Tyr Val Phe Asn Ala Asp Gly Ile His Gln Tyr		
1620	1625	1630
Thr Leu Ser Leu Val Thr Gly Glu Tyr Leu Tyr Asn Phe Thr Tyr Ser		
1635	1640	1645
Ser Asp Asn Asp Val Thr Glu Val Met Asp Ser Asn Gly Asn Ser Leu		
1650	1655	1660
Lys Val Arg Arg Asp Ala Ser Gly Met Pro Arg His Leu Leu Met Pro		
1665	1670	1675 1680
Asp Asn Gln Ile Val Thr Leu Ala Val Gly Thr Asn Gly Gly Leu Lys		
1685	1690	1695
Leu Val Ser Thr Gln Thr Leu Glu Leu Gly Leu Met Thr Tyr Asn Gly		
1700	1705	1710
Asn Ser Gly Leu Leu Ala Thr Lys Ser Asp Glu Thr Gly Trp Thr Thr		
1715	1720	1725
Phe Tyr Asp Tyr Asp His Glu Gly Arg Leu Thr Asn Val Thr Arg Pro		
1730	1735	1740
Thr Gly Val Val Thr Ser Leu His Arg Glu Met Glu Lys Ser Ile Thr		
1745	1750	1755 1760
Ile Asp Ile Glu Asn Ser Asn Arg Asp Asp Asp Val Thr Val Ile Thr		
1765	1770	1775
Asn Leu Ser Ser Val Glu Ala Ser Tyr Thr Val Val Gln Asp Gln Val		
1780	1785	1790
Arg Asn Ser Tyr Gln Leu Cys Asn Asn Gly Thr Leu Arg Val Met Tyr		
1795	1800	1805
Ala Asn Gly Met Ser Ile Ser Phe His Ser Glu Pro His Val Leu Ala		



1810	1815	1820
Gly Thr Val Thr Pro Thr Ile Gly Arg Cys Asn Ile Ser Leu Pro Met		
1825	1830	1835 1840
Glu Asn Gly Leu Asn Ser Ile Glu Trp Arg Leu Arg Lys Glu Gln Ile		
1845	1850	1855
Lys Gly Lys Val Thr Val Phe Gly Arg Lys Leu Arg Val His Gly Arg		
1860	1865	1870
Asn Leu Leu Ser Ile Asp Tyr Asp Arg Asn Ile Arg Thr Glu Lys Ile		
1875	1880	1885
Tyr Asp Asp His Arg Lys Phe Thr Leu Arg Ile Ile Tyr Asp Gln Leu		
1890	1895	1900
Gly Arg Pro Phe Leu Trp Leu Pro Ser Ser Gly Leu Ala Ala Val Asn		
1905	1910	1915 1920
Val Ser Tyr Phe Phe Asn Gly Arg Leu Ala Gly Leu Gln Arg Gly Ala		
1925	1930	1935
Met Ser Glu Arg Thr Asp Ile Asp Lys Gln Gly Arg Ile Ile Ser Arg		
1940	1945	1950
Met Phe Ala Asp Gly Lys Val Trp Ser Tyr Thr Tyr Leu Glu Lys Ser		
1955	1960	1965
Met Val Leu Leu Leu Gln Ser Gln Arg Gln Tyr Ile Phe Glu Tyr Asp		
1970	1975	1980
Ser Ser Asp Arg Leu His Ala Val Thr Met Pro Ser Val Ala Arg His		
1985	1990	1995 2000
Ser Met Ser Thr His Thr Ser Val Gly Tyr Ile Arg Asn Ile Tyr Asn		
2005	2010	2015
Pro Pro Glu Ser Asn Ala Ser Val Ile Phe Asp Tyr Ser Asp Asp Gly		
2020	2025	2030
Arg Ile Leu Lys Thr Ser Phe Leu Gly Thr Gly Arg Gln Val Phe Tyr		
2035	2040	2045
Lys Tyr Gly Lys Leu Ser Lys Leu Ser Glu Ile Val Tyr Asp Ser Thr		
2050	2055	2060
Ala Val Thr Phe Gly Tyr Asp Glu Thr Thr Gly Val Leu Lys Met Val		

2065	2070	2075	2080
Asn Leu Gln Ser Gly Gly Phe Ser Cys Thr Ile Arg Tyr Arg Lys Ile			
2085	2090	2095	
Gly Pro Leu Val Asp Lys Gln Ile Tyr Arg Phe Ser Glu Glu Gly Met			
2100	2105	2110	
Val Asn Ala Arg Phe Asp Tyr Thr Tyr His Asp Asn Ser Phe Arg Ile			
2115	2120	2125	
Ala Ser Ile Lys Pro Ile Ile Ser Glu Thr Pro Leu Pro Val Asp Leu			
2130	2135	2140	
Tyr Arg Tyr Asp Glu Ile Ser Gly Lys Val Glu His Phe Gly Lys Phe			
2145	2150	2155	2160
Gly Val Ile Tyr Tyr Asp Ile Asn Gln Ile Ile Thr Thr Ala Val Met			
2165	2170	2175	
Thr Leu Ser Lys His Phe Asp Thr His Gly Arg Ile Lys Glu Val Gln			
2180	2185	2190	
Tyr Glu Met Phe Arg Ser Leu Met Tyr Trp Met Thr Val Gln Tyr Asp			
2195	2200	2205	
Ser Met Gly Arg Val Thr Lys Arg Glu Leu Lys Leu Gly Pro Tyr Ala			
2210	2215	2220	
Asn Thr Thr Lys Tyr Thr Tyr Asp Tyr Asp Gly Asp Gly Gln Leu Gln			
2225	2230	2235	2240
Ser Val Ala Val Asn Asp Arg Pro Thr Trp Arg Tyr Ser Tyr Asp Leu			
2245	2250	2255	
Asn Gly Asn Leu His Leu Leu Asn Pro Gly Asn Ser Val Arg Leu Met			
2260	2265	2270	
Pro Leu Arg Tyr Asp Leu Arg Asp Arg Ile Thr Arg Leu Gly Asp Ile			
2275	2280	2285	
Pro Tyr Lys Ile Asp Asp Asp Gly Phe Leu Cys Gln Arg Gly Ser Asp			
2290	2295	2300	
Val Phe Glu Tyr Asn Ser Lys Gly Leu Leu Thr Arg Ala Tyr Asn Lys			
2305	2310	2315	2320
Ala Asn Gly Trp Asn Val Gln Tyr Arg Tyr Asp Gly Leu Gly Arg Arg			

2325	2330	2335
Ala Ser Cys Lys Thr Asn Leu Gly His His Leu Gln Tyr Phe Tyr Ala		
2340	2345	2350
Asp Leu His Asn Pro Thr Arg Val Thr His Val Tyr Asn His Ser Asn		
2355	2360	2365
Ser Glu Ile Thr Ser Leu Tyr Tyr Asp Leu Gln Gly His Leu Phe Ala		
2370	2375	2380
Met Glu Ser Ser Ser Gly Glu Glu Tyr Tyr Val Ala Ser Asp Asn Thr		
2385	2390	2395
Gly Thr Pro Leu Ala Val Phe Ser Ile Asn Gly Leu Met Ile Lys Gln		
2405	2410	2415
Leu Gln Tyr Thr Ala Tyr Gly Glu Ile Tyr Tyr Asp Ser Asn Pro Asp		
2420	2425	2430
Phe Gln Leu Val Ile Gly Phe His Gly Gly Leu Tyr Asp Pro Leu Thr		
2435	2440	2445
Lys Leu Val His Phe Thr Gln Arg Asp Tyr Asp Val Leu Ala Gly Arg		
2450	2455	2460
Trp Thr Ser Pro Asp Tyr Thr Met Trp Lys Asn Ile Gly Arg Glu Pro		
2465	2470	2475
Ala Pro Phe Asn Leu Tyr Met Phe Lys Ser Asn Asn Pro Leu Ser Asn		
2485	2490	2495
Glu Leu Asp Leu Lys Asn Tyr Val Thr Asp Val Lys Ser Trp Leu Val		
2500	2505	2510
Met Phe Gly Phe Gln Leu Ser Asn Ile Ile Pro Gly Phe Pro Arg Ala		
2515	2520	2525
Lys Met Tyr Phe Val Ser Pro Pro Tyr Glu Leu Thr Glu Ser Gln Ala		
2530	2535	2540
Cys Glu Asn Gly Gln Leu Ile Thr Gly Val Gln Gln Thr Thr Glu Arg		
2545	2550	2555
His Asn Gln Ala Phe Met Ala Leu Glu Gly Gln Val Ile Ser Lys Arg		
2565	2570	2575
Leu His Ala Ser Ile Arg Glu Lys Ala Gly His Trp Phe Ala Thr Ser		

2580	2585	2590
Thr Pro Ile Ile Gly Lys Gly Ile Met Phe Ala Val Lys Lys Gly Arg		
2595	2600	2605
Val Thr Thr Gly Ile Ser Ser Ile Ala Thr Asp Asp Ser Arg Lys Ile		
2610	2615	2620
Ala Ser Val Leu Asn Ser Ala His Tyr Leu Glu Lys Met His Tyr Ser		
2625	2630	2635 2640
Ile Glu Gly Lys Asp Thr His Tyr Phe Val Lys Ile Gly Ser Ala Asp		
2645	2650	2655
Ser Asp Leu Val Thr Leu Ala Met Thr Ser Gly Arg Lys Val Leu Asp		
2660	2665	2670
Ser Gly Val Asn Val Thr Val Ser Gln Pro Thr Leu Leu Ile Asn Gly		
2675	2680	2685
Arg Thr Arg Arg Phe Thr Asn Ile Glu Phe Gln Tyr Ser Thr Leu Leu		
2690	2695	2700
Ile Asn Ile Arg Tyr Gly Leu Thr Ala Asp Thr Leu Asp Glu Glu Lys		
2705	2710	2715 2720
Ala Arg Val Leu Asp Gln Ala Arg Gln Arg Ala Leu Gly Ser Ala Trp		
2725	2730	2735
Ala Lys Glu Gln Gln Lys Ala Arg Asp Gly Arg Glu Gly Ser Arg Val		
2740	2745	2750
Trp Thr Asp Gly Glu Lys Gln Gln Leu Leu Asn Thr Gly Arg Val Gln		
2755	2760	2765
Gly Tyr Glu Gly Tyr Tyr Val Leu Pro Val Glu Gln Tyr Pro Glu Leu		
2770	2775	2780
Ala Asp Ser Ser Ser Asn Ile Gln Phe Leu Arg Gln Asn Glu Met Gly		
2785	2790	2795 2800
Lys Arg		

<210> 70  
 <211> 2771  
 <212> PRT

<213> Mus musculus

<400> 70

Met	Asp	Val	Lys	Glu	Arg	Lys	Pro	Tyr	Arg	Ser	Leu	Thr	Arg	Arg	Arg	
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Asp	Ala	Glu	Arg	Arg	Tyr	Thr	Ser	Ser	Ser	Ala	Asp	Ser	Glu	Glu	Gly	
			20					25					30			
Lys	Gly	Pro	Gln	Lys	Ser	Tyr	Ser	Ser	Ser	Glu	Thr	Leu	Lys	Ala	Tyr	
		35					40					45				
Asp	Gln	Asp	Ala	Arg	Leu	Ala	Tyr	Gly	Ser	Arg	Val	Lys	Asp	Met	Val	
	50					55					60					
Pro	Gln	Glu	Ala	Glu	Glu	Phe	Cys	Arg	Thr	Gly	Thr	Asn	Phe	Thr	Leu	
65					70					75					80	
Arg	Glu	Leu	Gly	Leu	Gly	Glu	Met	Thr	Pro	Pro	His	Gly	Thr	Leu	Tyr	
				85					90					95		
Arg	Thr	Asp	Ile	Gly	Leu	Pro	His	Cys	Gly	Tyr	Ser	Met	Gly	Ala	Ser	
		100						105					110			
Ser	Asp	Ala	Asp	Leu	Glu	Ala	Asp	Thr	Val	Leu	Ser	Pro	Glu	His	Pro	
	115						120					125				
Val	Arg	Leu	Trp	Gly	Arg	Ser	Thr	Arg	Ser	Gly	Arg	Ser	Ser	Cys	Leu	
	130					135					140					
Ser	Ser	Arg	Ala	Asn	Ser	Asn	Leu	Thr	Leu	Thr	Asp	Thr	Glu	His	Glu	
145					150					155					160	
Asn	Thr	Glu	Thr	Asp	His	Pro	Ser	Ser	Leu	Gln	Asn	His	Pro	Arg	Leu	
			165						170					175		
Arg	Thr	Pro	Pro	Pro	Pro	Leu	Pro	His	Ala	His	Thr	Pro	Asn	Gln	His	
		180						185					190			
His	Ala	Ala	Ser	Ile	Asn	Ser	Leu	Asn	Arg	Gly	Asn	Phe	Thr	Pro	Arg	
	195						200					205				
Ser	Asn	Pro	Ser	Pro	Ala	Pro	Thr	Asp	His	Ser	Leu	Ser	Gly	Glu	Pro	
	210					215					220					
Pro	Ala	Gly	Ser	Ala	Gln	Glu	Pro	Thr	His	Ala	Gln	Asp	Asn	Trp	Leu	
225					230					235					240	

Leu	Asn	Ser	Asn	Ile	Pro	Leu	Glu	Thr	Arg	Asn	Leu	Gly	Lys	Gln	Pro	245	250	255	
Phe	Leu	Gly	Thr	Leu	Gln	Asp	Asn	Leu	Ile	Glu	Met	Asp	Ile	Leu	Ser	260	265	270	
Ala	Ser	Arg	His	Asp	Gly	Ala	Tyr	Ser	Asp	Gly	His	Phe	Leu	Phe	Lys	275	280	285	
Pro	Gly	Gly	Thr	Ser	Pro	Leu	Phe	Cys	Thr	Thr	Ser	Pro	Gly	Tyr	Pro	290	295	300	
Leu	Thr	Ser	Ser	Thr	Val	Tyr	Ser	Pro	Pro	Pro	Arg	Pro	Leu	Pro	Arg	305	310	315	320
Ser	Thr	Phe	Ser	Arg	Pro	Ala	Phe	Asn	Leu	Lys	Lys	Pro	Ser	Lys	Tyr	325	330	335	
Cys	Asn	Trp	Lys	Cys	Ala	Ala	Leu	Ser	Ala	Ile	Leu	Ile	Ser	Ala	Thr	340	345	350	
Leu	Val	Ile	Leu	Leu	Ala	Tyr	Phe	Val	Ala	Met	His	Leu	Phe	Gly	Leu	355	360	365	
Asn	Trp	His	Leu	Gln	Pro	Met	Glu	Gly	Gln	Met	Gln	Met	Tyr	Glu	Ile	370	375	380	
Thr	Glu	Asp	Thr	Ala	Ser	Ser	Trp	Pro	Val	Pro	Thr	Asp	Val	Ser	Leu	385	390	395	400
Tyr	Pro	Ser	Gly	Gly	Thr	Gly	Leu	Glu	Thr	Pro	Asp	Arg	Lys	Gly	Lys	405	410	415	
Gly	Ala	Ala	Glu	Gly	Lys	Pro	Ser	Ser	Leu	Phe	Pro	Glu	Asp	Ser	Phe	420	425	430	
Ile	Asp	Ser	Gly	Glu	Ile	Asp	Val	Gly	Arg	Arg	Ala	Ser	Gln	Lys	Ile	435	440	445	
Pro	Pro	Gly	Thr	Phe	Trp	Arg	Ser	Gln	Val	Phe	Ile	Asp	His	Pro	Val	450	455	460	
His	Leu	Lys	Phe	Asn	Val	Ser	Leu	Gly	Lys	Ala	Ala	Leu	Val	Gly	Ile	465	470	475	480
Tyr	Gly	Arg	Lys	Gly	Leu	Pro	Pro	Ser	His	Thr	Gln	Phe	Asp	Phe	Val	485	490	495	

Glu	Leu	Leu	Asp	Gly	Arg	Arg	Leu	Leu	Thr	Gln	Glu	Ala	Arg	Ser	Leu	500	505	510
Glu	Gly	Pro	Gln	Arg	Gln	Ser	Arg	Gly	Pro	Val	Pro	Pro	Ser	Ser	His	515	520	525
Glu	Thr	Gly	Phe	Ile	Gln	Tyr	Leu	Asp	Ser	Gly	Ile	Trp	His	Leu	Ala	530	535	540
Phe	Tyr	Asn	Asp	Gly	Lys	Glu	Ser	Glu	Val	Val	Ser	Phe	Leu	Thr	Thr	545	550	555
Ala	Ile	Glu	Ser	Val	Asp	Asn	Cys	Pro	Ser	Asn	Cys	Tyr	Gly	Asn	Gly	565	570	575
Asp	Cys	Ile	Ser	Gly	Thr	Cys	His	Cys	Phe	Leu	Gly	Phe	Leu	Gly	Pro	580	585	590
Asp	Cys	Gly	Arg	Ala	Ser	Cys	Pro	Val	Leu	Cys	Ser	Gly	Asn	Gly	Gln	595	600	605
Tyr	Met	Lys	Gly	Arg	Cys	Leu	Cys	His	Ser	Gly	Trp	Lys	Gly	Ala	Glu	610	615	620
Cys	Asp	Val	Pro	Thr	Asn	Gln	Cys	Ile	Asp	Val	Ala	Cys	Ser	Ser	His	625	630	635
Gly	Thr	Cys	Ile	Met	Gly	Thr	Cys	Ile	Cys	Asn	Pro	Gly	Tyr	Lys	Gly	645	650	655
Glu	Ser	Cys	Glu	Glu	Val	Asp	Cys	Met	Asp	Pro	Thr	Cys	Ser	Ser	Arg	660	665	670
Gly	Val	Cys	Val	Arg	Gly	Glu	Cys	His	Cys	Ser	Val	Gly	Trp	Gly	Gly	675	680	685
Thr	Asn	Cys	Glu	Thr	Pro	Arg	Ala	Thr	Cys	Leu	Asp	Gln	Cys	Ser	Gly	690	695	700
His	Gly	Thr	Phe	Leu	Pro	Asp	Thr	Gly	Leu	Cys	Asn	Cys	Asp	Pro	Ser	705	710	715
Trp	Thr	Gly	His	Asp	Cys	Ser	Ile	Glu	Ile	Cys	Ala	Ala	Asp	Cys	Gly	725	730	735
Gly	His	Gly	Val	Cys	Val	Gly	Gly	Thr	Cys	Arg	Cys	Glu	Asp	Gly	Trp	740	745	750

Met Gly Ala Ala Cys Asp Gln Arg Ala Cys His Pro Arg Cys Ala Glu  
 755 760 765

His Gly Thr Cys Arg Asp Gly Lys Cys Glu Cys Ser Pro Gly Trp Asn  
 770 775 780

Gly Glu His Cys Thr Ile Ala His Tyr Leu Asp Arg Val Val Lys Glu  
 785 790 795 800

Gly Cys Pro Gly Leu Cys Asn Gly Asn Gly Arg Cys Thr Leu Asp Leu  
 805 810 815

Asn Gly Trp His Cys Val Cys Gln Leu Gly Trp Arg Gly Thr Gly Cys  
 820 825 830

Asp Thr Ser Met Glu Thr Gly Cys Gly Asp Gly Lys Asp Asn Asp Gly  
 835 840 845

Asp Gly Leu Val Asp Cys Met Asp Pro Asp Cys Cys Leu Gln Pro Leu  
 850 855 860

Cys His Val Asn Pro Leu Cys Leu Gly Ser Pro Asp Pro Leu Asp Ile  
 865 870 875 880

Ile Gln Glu Thr Gln Ala Pro Val Ser Gln Gln Asn Leu Asn Pro Phe  
 885 890 895

Tyr Asp Arg Ile Lys Phe Leu Val Gly Arg Asp Ser Thr His Ser Ile  
 900 905 910

Pro Gly Glu Asn Pro Phe Asp Gly Gly His Ala Cys Val Ile Arg Gly  
 915 920 925

Gln Val Met Thr Ser Asp Gly Thr Pro Leu Val Gly Val Asn Ile Ser  
 930 935 940

Phe Ile Asn Asn Pro Leu Phe Gly Tyr Thr Ile Ser Arg Gln Asp Gly  
 945 950 955 960

Ser Phe Asp Leu Val Thr Asn Gly Gly Ile Ser Ile Ile Leu Arg Phe  
 965 970 975

Glu Arg Ala Pro Phe Ile Thr Gln Glu His Thr Leu Trp Leu Pro Trp  
 980 985 990

Asp Arg Phe Phe Val Met Glu Thr Ile Val Met Arg His Glu Glu Asn  
 995 1000 1005



Glu Ile Pro Ser Cys Asp Leu Ser Asn Phe Ala Arg Pro Asn Pro Val			
1010	1015	1020	
Val Ser Pro Ser Pro Leu Thr Ser Phe Ala Ser Ser Cys Ala Glu Lys			
1025	1030	1035	1040
Gly Pro Ile Val Pro Glu Ile Gln Ala Leu Gln Glu Glu Ile Val Ile			
1045	1050	1055	
Ala Gly Cys Lys Met Arg Leu Ser Tyr Leu Ser Ser Arg Thr Pro Gly			
1060	1065	1070	
Tyr Lys Ser Val Leu Arg Ile Ser Leu Thr His Pro Thr Ile Pro Phe			
1075	1080	1085	
Asn Leu Met Lys Val His Leu Met Val Ala Val Glu Gly Arg Leu Phe			
1090	1095	1100	
Arg Lys Trp Phe Ala Ala Ala Pro Asp Leu Ser Tyr Tyr Phe Ile Trp			
1105	1110	1115	1120
Asp Lys Thr Asp Val Tyr Asn Gln Lys Val Phe Gly Phe Ser Glu Ala			
1125	1130	1135	
Phe Val Ser Val Gly Tyr Glu Tyr Glu Ser Cys Pro Asp Leu Ile Leu			
1140	1145	1150	
Trp Glu Lys Arg Thr Ala Val Leu Gln Gly Tyr Glu Ile Asp Ala Ser			
1155	1160	1165	
Lys Leu Gly Gly Trp Ser Leu Asp Lys His His Ala Leu Asn Ile Gln			
1170	1175	1180	
Ser Gly Ile Leu His Lys Gly Asn Gly Glu Asn Gln Phe Val Ser Gln			
1185	1190	1195	1200
Gln Pro Pro Val Ile Gly Ser Ile Met Gly Asn Gly Arg Arg Arg Ser			
1205	1210	1215	
Ile Ser Cys Pro Ser Cys Asn Gly Leu Ala Asp Gly Asn Lys Leu Leu			
1220	1225	1230	
Ala Pro Val Ala Leu Thr Cys Gly Ser Asp Gly Ser Leu Tyr Val Gly			
1235	1240	1245	
Asp Phe Asn Tyr Ile Arg Arg Ile Phe Pro Ser Gly Asn Val Thr Asn			
1250	1255	1260	

Ile Leu Glu Met Arg Asn Lys Asp Phe Arg His Ser His Ser Pro Ala			
1265	1270	1275	1280
His Lys Tyr Tyr Leu Ala Thr Asp Pro Met Ser Gly Ala Val Phe Leu			
	1285	1290	1295
Ser Asp Thr Asn Ser Arg Arg Val Phe Lys Val Lys Ser Thr Thr Val			
	1300	1305	1310
Val Lys Asp Leu Val Lys Asn Ser Glu Val Val Ala Gly Thr Gly Asp			
	1315	1320	1325
Gln Cys Leu Pro Phe Asp Asp Thr Arg Cys Gly Asp Gly Gly Lys Ala			
	1330	1335	1340
Thr Glu Ala Thr Leu Thr Asn Pro Arg Gly Ile Thr Val Asp Lys Phe			
1345	1350	1355	1360
Gly Leu Ile Tyr Phe Val Asp Gly Thr Met Ile Arg Arg Val Asp Gln			
	1365	1370	1375
Asn Gly Ile Ile Ser Thr Leu Leu Gly Ser Asn Asp Leu Thr Ser Ala			
	1380	1385	1390
Arg Pro Leu Ser Cys Asp Ser Val Met Glu Ile Ser Gln Val Arg Leu			
	1395	1400	1405
Glu Trp Pro Thr Asp Leu Ala Ile Asn Pro Met Asp Asn Ser Leu Tyr			
	1410	1415	1420
Val Leu Asp Asn Asn Val Val Leu Gln Ile Ser Glu Asn His Gln Val			
1425	1430	1435	1440
Arg Ile Val Ala Gly Arg Pro Met His Cys Gln Val Pro Gly Ile Asp			
	1445	1450	1455
His Phe Leu Leu Ser Lys Val Ala Ile His Ala Thr Leu Glu Ser Ala			
	1460	1465	1470
Thr Ala Leu Ala Val Ser His Asn Gly Val Leu Tyr Ile Ala Glu Thr			
	1475	1480	1485
Asp Glu Lys Lys Ile Asn Arg Ile Arg Gln Val Thr Thr Ser Gly Glu			
	1490	1495	1500
Ile Ser Leu Val Ala Gly Ala Pro Ser Gly Cys Asp Cys Lys Asn Asp			
1505	1510	1515	1520

Ala Asn Cys Asp Cys Phe Ser Gly Asp Asp Gly Tyr Ala Lys Asp Ala		
1525	1530	1535
Lys Leu Asn Thr Pro Ser Ser Leu Ala Val Cys Ala Asp Gly Glu Leu		
1540	1545	1550
Tyr Val Ala Asp Leu Gly Asn Ile Arg Ile Arg Phe Ile Arg Lys Asn		
1555	1560	1565
Lys Pro Phe Leu Asn Thr Gln Asn Met Tyr Glu Leu Ser Ser Pro Ile		
1570	1575	1580
Asp Gln Glu Leu Tyr Leu Phe Asp Thr Ser Gly Lys His Leu Tyr Thr		
1585	1590	1595 1600
Gln Ser Leu Pro Thr Gly Asp Tyr Leu Tyr Asn Phe Thr Tyr Thr Gly		
1605	1610	1615
Asp Gly Asp Ile Thr His Ile Thr Asp Asn Asn Gly Asn Met Val Asn		
1620	1625	1630
Val Arg Arg Asp Ser Thr Gly Met Pro Leu Trp Leu Val Val Pro Asp		
1635	1640	1645
Gly Gln Val Tyr Trp Val Thr Met Gly Thr Asn Ser Ala Leu Arg Ser		
1650	1655	1660
Val Thr Thr Gln Gly His Glu Leu Ala Met Met Thr Tyr His Gly Asn		
1665	1670	1675 1680
Ser Gly Leu Leu Ala Thr Lys Ser Asn Glu Asn Gly Trp Thr Thr Phe		
1685	1690	1695
Tyr Glu Tyr Asp Ser Phe Gly Arg Leu Thr Asn Val Thr Phe Pro Thr		
1700	1705	1710
Gly Gln Val Ser Ser Phe Arg Ser Asp Thr Asp Ser Ser Val His Val		
1715	1720	1725
Gln Val Glu Thr Ser Ser Lys Asp Asp Val Thr Ile Thr Thr Asn Leu		
1730	1735	1740
Ser Ala Ser Gly Ala Phe Tyr Thr Leu Leu Gln Asp Gln Val Arg Asn		
1745	1750	1755 1760
Ser Tyr Tyr Ile Gly Ala Asp Gly Ser Leu Arg Leu Leu Leu Ala Asn		
1765	1770	1775

Gly Met Glu Val Ala Leu Gln Thr Glu Pro His Leu Leu Ala Gly Thr			
1780	1785	1790	
Val Asn Pro Thr Val Gly Lys Arg Asn Val Thr Leu Pro Ile Asp Asn			
1795	1800	1805	
Gly Leu Asn Leu Val Glu Trp Arg Gln Arg Lys Glu Gln Ala Arg Gly			
1810	1815	1820	
Gln Val Thr Val Phe Gly Arg Arg Leu Arg Val His Asn Arg Asn Leu			
1825	1830	1835	1840
Leu Ser Leu Asp Phe Asp Arg Val Thr Arg Thr Glu Lys Ile Tyr Asp			
1845	1850	1855	
Asp His Arg Lys Phe Thr Leu Arg Ile Leu Tyr Asp Gln Ala Gly Arg			
1860	1865	1870	
Pro Ser Leu Trp Ser Pro Ser Ser Arg Leu Asn Gly Val Asn Val Thr			
1875	1880	1885	
Tyr Ser Pro Gly Gly His Ile Ala Gly Ile Gln Arg Gly Ile Met Ser			
1890	1895	1900	
Glu Arg Met Glu Tyr Asp Gln Ala Gly Arg Ile Thr Ser Arg Ile Phe			
1905	1910	1915	1920
Ala Asp Gly Lys Met Trp Ser Tyr Thr Tyr Leu Glu Lys Ser Met Val			
1925	1930	1935	
Leu His Leu His Ser Gln Arg Gln Tyr Ile Phe Glu Phe Asp Lys Asn			
1940	1945	1950	
Asp Arg Leu Ser Ser Val Thr Met Pro Asn Val Ala Arg Gln Thr Leu			
1955	1960	1965	
Glu Thr Ile Arg Ser Val Gly Tyr Tyr Arg Asn Ile Tyr Gln Pro Pro			
1970	1975	1980	
Glu Gly Asn Ala Ser Val Ile Gln Asp Phe Thr Glu Asp Gly His Leu			
1985	1990	1995	2000
Leu His Thr Phe Tyr Leu Gly Thr Gly Arg Arg Val Ile Tyr Lys Tyr			
2005	2010	2015	
Gly Lys Leu Ser Lys Leu Ala Glu Thr Leu Tyr Asp Thr Thr Lys Val			
2020	2025	2030	

Ser Phe Thr Tyr Asp Glu Thr Ala Gly Met Leu Lys Thr Val Asn Leu  
 2035 2040 2045  
 Gln Asn Glu Gly Phe Thr Cys Thr Ile Arg Tyr Arg Gln Ile Gly Pro  
 2050 2055 2060  
 Leu Ile Asp Arg Gln Ile Phe Arg Phe Thr Glu Glu Gly Met Val Asn  
 2065 2070 2075 2080  
 Ala Arg Phe Asp Tyr Asn Tyr Asp Asn Ser Phe Arg Val Thr Ser Met  
 2085 2090 2095  
 Gln Ala Val Ile Asn Glu Thr Pro Leu Pro Ile Asp Leu Tyr Arg Tyr  
 2100 2105 2110  
 Asp Asp Val Ser Gly Lys Thr Glu Gln Phe Gly Lys Phe Gly Val Ile  
 2115 2120 2125  
 Tyr Tyr Asp Ile Asn Gln Ile Ile Thr Thr Ala Val Met Thr His Thr  
 2130 2135 2140  
 Lys His Phe Asp Ala Tyr Gly Arg Met Lys Glu Val Gln Tyr Glu Ile  
 2145 2150 2155 2160  
 Phe Arg Ser Leu Met Tyr Trp Met Thr Val Gln Tyr Asp Asn Met Gly  
 2165 2170 2175  
 Arg Val Val Lys Lys Glu Leu Lys Val Gly Pro Tyr Ala Asn Thr Thr  
 2180 2185 2190  
 Arg Tyr Ser Tyr Glu Tyr Asp Ala Asp Gly Gln Leu Gln Thr Val Ser  
 2195 2200 2205  
 Ile Asn Asp Lys Pro Leu Trp Arg Tyr Ser Tyr Asp Leu Asn Gly Asn  
 2210 2215 2220  
 Leu His Leu Leu Ser Pro Gly Asn Ser Ala Arg Leu Thr Pro Leu Arg  
 2225 2230 2235 2240  
 Tyr Asp Leu Arg Asp Arg Ile Thr Arg Leu Gly Asp Val Gln Tyr Lys  
 2245 2250 2255  
 Met Asp Glu Asp Gly Phe Leu Arg Gln Arg Gly Gly Asp Val Phe Glu  
 2260 2265 2270  
 Tyr Asn Ser Ala Gly Leu Leu Ile Lys Ala Tyr Asn Arg Ala Ser Gly  
 2275 2280 2285

Trp Ser Val Arg Tyr Arg Tyr Asp Gly Leu Gly Arg Arg Val Ser Ser  
 2290 2295 2300

Lys Ser Ser His Ser His His Leu Gln Phe Phe Tyr Ala Asp Leu Thr  
 2305 2310 2315 2320

Asn Pro Thr Lys Val Thr His Leu Tyr Asn His Ser Ser Ser Glu Ile  
 2325 2330 2335

Thr Ser Leu Tyr Tyr Asp Leu Gln Gly His Leu Phe Ala Met Glu Leu  
 2340 2345 2350

Ser Ser Gly Asp Glu Phe Tyr Ile Ala Cys Asp Asn Ile Gly Thr Pro  
 2355 2360 2365

Leu Ala Val Phe Ser Gly Thr Gly Leu Met Ile Lys Gln Ile Leu Tyr  
 2370 2375 2380

Thr Ala Tyr Gly Glu Ile Tyr Met Asp Thr Asn Pro Asn Phe Gln Ile  
 2385 2390 2395 2400

Ile Ile Gly Tyr His Gly Gly Leu Tyr Asp Pro Leu Thr Lys Leu Val  
 2405 2410 2415

His Met Gly Arg Arg Asp Tyr Asp Val Leu Ala Gly Arg Trp Thr Ser  
 2420 2425 2430

Pro Asp His Glu Leu Trp Lys Arg Leu Ser Ser Asn Ser Ile Val Pro  
 2435 2440 2445

Phe His Leu Tyr Met Phe Lys Asn Asn Asn Pro Ile Ser Asn Ser Gln  
 2450 2455 2460

Asp Ile Lys Cys Phe Met Thr Asp Val Asn Ser Trp Leu Leu Thr Phe  
 2465 2470 2475 2480

Gly Phe Gln Leu His Asn Val Ile Pro Gly Tyr Pro Lys Pro Asp Thr  
 2485 2490 2495

Asp Ala Met Glu Pro Ser Tyr Glu Leu Val His Thr Gln Met Lys Thr  
 2500 2505 2510

Gln Glu Trp Asp Asn Ser Lys Ser Ile Leu Gly Val Gln Cys Glu Val  
 2515 2520 2525

Gln Lys Gln Leu Lys Ala Phe Val Thr Leu Glu Arg Phe Asp Gln Leu  
 2530 2535 2540



<212> PRT

<213> Homo sapiens

<400> 71

Thr	Phe	Phe	Ser	Ala	Ala	Pro	Gly	Gln	Asn	Pro	Ile	Val	Pro	Glu	Thr
1				5					10					15	
Gln	Val	Leu	His	Glu	Glu	Ile	Glu	Leu	Pro	Gly	Ser	Asn	Val	Lys	Leu
			20					25					30		
Arg	Tyr	Leu	Ser	Ser	Arg	Thr	Ala	Gly	Tyr	Lys	Ser	Leu	Leu	Lys	Ile
		35					40					45			
Thr	Met	Thr	Gln	Ser	Thr	Val	Pro	Leu	Asn	Leu	Ile	Arg	Val	His	Leu
	50					55					60				
Met	Val	Ala	Val	Glu	Gly	His	Leu	Phe	Gln	Lys	Ser	Phe	Gln	Ala	Ser
65					70					75					80
Pro	Asn	Leu	Ala	Tyr	Thr	Phe	Ile	Trp	Asp	Lys	Thr	Asp	Ala	Tyr	Gly
				85					90					95	
Gln	Arg	Val	Tyr	Gly	Leu	Ser	Asp	Ala	Val	Val	Ser	Val	Gly	Phe	Glu
		100						105					110		
Tyr	Glu	Thr	Cys	Pro	Ser	Leu	Ile	Leu	Trp	Glu	Lys	Arg	Thr	Ala	Leu
		115					120					125			
Leu	Gln	Gly	Phe	Glu	Leu	Asp	Pro	Ser	Asn	Leu	Gly	Gly	Trp	Ser	Leu
	130					135					140				
Asp	Lys	His	His	Ile	Leu	Asn	Val	Lys	Ser	Gly	Ile	Leu	His	Lys	Gly
145					150					155				160	
Thr	Gly	Glu	Asn	Gln	Phe	Leu	Thr	Gln	Gln	Pro	Ala	Ile	Ile	Thr	Ser
				165					170					175	
Ile	Met	Gly	Asn	Gly	Arg	Arg	Arg	Ser	Ile	Ser	Cys	Pro	Ser	Cys	Asn
			180					185					190		
Gly	Leu	Ala	Glu	Gly	Asn	Lys	Leu	Leu	Ala	Pro	Val	Ala	Leu	Ala	Val
		195					200					205			
Gly	Ile	Asp	Gly	Ser	Leu	Tyr	Val	Gly	Asp	Phe	Asn	Tyr	Ile	Arg	Arg
	210					215					220				
Ile	Phe	Pro	Ser	Arg	Asn	Val	Thr	Ser	Ile	Leu	Glu	Leu	Arg	Asn	Lys
225					230					235				240	



Glu	Phe	Lys	His	Ser	Asn	Asn	Pro	Ala	His	Lys	Tyr	Tyr	Leu	Ala	Val	245	250	255
Asp	Pro	Val	Ser	Gly	Ser	Leu	Tyr	Val	Ser	Asp	Thr	Asn	Ser	Arg	Arg	260	265	270
Ile	Tyr	Arg	Val	Lys	Ser	Leu	Ser	Gly	Thr	Lys	Asp	Leu	Ala	Gly	Asn	275	280	285
Ser	Glu	Val	Val	Ala	Gly	Thr	Gly	Glu	Gln	Cys	Leu	Pro	Phe	Asp	Glu	290	295	300
Ala	Arg	Cys	Gly	Asp	Gly	Gly	Lys	Ala	Ile	Asp	Ala	Thr	Leu	Met	Ser	305	310	315
Pro	Arg	Gly	Ile	Ala	Val	Asp	Lys	Asn	Gly	Leu	Met	Tyr	Phe	Val	Asp	325	330	335
Ala	Thr	Met	Ile	Arg	Lys	Val	Asp	Gln	Asn	Gly	Ile	Ile	Ser	Thr	Leu	340	345	350
Leu	Gly	Ser	Asn	Asp	Leu	Thr	Ala	Val	Arg	Pro	Leu	Ser	Cys	Asp	Ser	355	360	365
Ser	Met	Asp	Val	Ala	Gln	Val	Arg	Leu	Glu	Trp	Pro	Thr	Asp	Leu	Ala	370	375	380
Val	Asn	Pro	Met	Asp	Asn	Ser	Leu	Tyr	Val	Leu	Glu	Asn	Asn	Val	Ile	385	390	395
Leu	Arg	Ile	Thr	Glu	Asn	His	Gln	Val	Ser	Ile	Ile	Ala	Gly	Arg	Pro	405	410	415
Met	His	Cys	Gln	Val	Pro	Gly	Ile	Asp	Tyr	Ser	Leu	Ser	Lys	Leu	Ala	420	425	430
Ile	His	Ser	Ala	Leu	Glu	Ser	Ala	Ser	Ala	Ile	Ala	Ile	Ser	His	Thr	435	440	445
Gly	Val	Leu	Tyr	Ile	Thr	Glu	Thr	Asp	Glu	Lys	Lys	Ile	Asn	Arg	Leu	450	455	460
Arg	Gln	Val	Thr	Thr	Asn	Gly	Glu	Ile	Cys	Leu	Leu	Ala	Gly	Ala	Ala	465	470	475
Ser	Asp	Cys	Asp	Cys	Lys	Asn	Asp	Val	Asn	Cys	Asn	Cys	Tyr	Ser	Gly	485	490	495

Asp	Asp	Ala	Tyr	Ala	Thr	Asp	Ala	Ile	Leu	Asn	Ser	Pro	Ser	Ser	Leu	500	505	510
Ala	Val	Ala	Pro	Asp	Gly	Thr	Ile	Tyr	Ile	Ala	Asp	Leu	Gly	Asn	Ile	515	520	525
Arg	Ile	Arg	Ala	Val	Ser	Lys	Asn	Lys	Pro	Val	Leu	Asn	Ala	Phe	Asn	530	535	540
Gln	Tyr	Glu	Ala	Ala	Ser	Pro	Gly	Glu	Gln	Glu	Leu	Tyr	Val	Phe	Asn	545	550	555
Ala	Asp	Gly	Ile	His	Gln	Tyr	Thr	Val	Ser	Leu	Val	Thr	Gly	Glu	Tyr	565	570	575
Leu	Tyr	Asn	Phe	Thr	Tyr	Ser	Thr	Asp	Asn	Asp	Val	Thr	Glu	Leu	Ile	580	585	590
Asp	Asn	Asn	Gly	Asn	Ser	Leu	Lys	Ile	Arg	Arg	Asp	Ser	Ser	Gly	Met	595	600	605
Pro	Arg	His	Leu	Leu	Met	Pro	Asp	Asn	Gln	Ile	Ile	Thr	Leu	Thr	Val	610	615	620
Gly	Thr	Asn	Gly	Gly	Leu	Lys	Val	Val	Ser	Thr	Gln	Asn	Leu	Glu	Leu	625	630	635
Gly	Leu	Met	Thr	Tyr	Asp	Gly	Asn	Thr	Gly	Leu	Leu	Ala	Thr	Lys	Ser	645	650	655
Asp	Glu	Thr	Gly	Trp	Thr	Thr	Phe	Tyr	Asp	Tyr	Asp	His	Glu	Gly	Arg	660	665	670
Leu	Thr	Asn	Val	Thr	Arg	Pro	Thr	Gly	Val	Val	Thr	Ser	Leu	His	Arg	675	680	685
Glu	Met	Glu	Lys	Ser	Ile	Thr	Ile	Asp	Ile	Glu	Asn	Ser	Asn	Arg	Asp	690	695	700
Asp	Asp	Val	Thr	Val	Ile	Thr	Asn	Leu	Ser	Ser	Val	Glu	Ala	Ser	Tyr	705	710	715
Thr	Val	Val	Gln	Asp	Gln	Val	Arg	Asn	Ser	Tyr	Gln	Leu	Cys	Asn	Asn	725	730	735
Gly	Thr	Leu	Arg	Val	Met	Tyr	Ala	Asn	Gly	Met	Gly	Ile	Ser	Phe	His	740	745	750

Ser Glu Pro His Val Leu Ala Gly Thr Ile Thr Pro Thr Ile Gly Arg  
 755 760 765  
 Cys Asn Ile Ser Leu Pro Met Glu Asn Gly Leu Asn Ser Ile Glu Trp  
 770 775 780  
 Arg Leu Arg Lys Glu Gln Ile Lys Gly Lys Val Thr Ile Phe Gly Arg  
 785 790 795 800  
 Lys Leu Arg Val His Gly Arg Asn Leu Leu Ser Ile Asp Tyr Asp Arg  
 805 810 815  
 Asn Ile Arg Thr Glu Lys Ile Tyr Asp Asp His Arg Lys Phe Thr Leu  
 820 825 830  
 Arg Ile Ile Tyr Asp Gln Val Gly Arg Pro Phe Leu Trp Leu Pro Ser  
 835 840 845  
 Ser Gly Leu Ala Ala Val Asn Val Ser Tyr Phe Phe Asn Gly Arg Leu  
 850 855 860  
 Ala Gly Leu Gln Arg Gly Ala Met Ser Glu Arg Thr Asp Ile Asp Lys  
 865 870 875 880  
 Gln Gly Arg Ile Val Ser Arg Met Phe Ala Asp Gly Lys Val Trp Ser  
 885 890 895  
 Tyr Ser Tyr Leu Asp Lys Ser Met Val Leu Leu Leu Gln Ser Gln Arg  
 900 905 910  
 Gln Tyr Ile Phe Glu Tyr Asp Ser Ser Asp Arg Leu Leu Ala Val Thr  
 915 920 925  
 Met Pro Ser Val Ala Arg His Ser Met Ser Thr His Thr Ser Ile Gly  
 930 935 940  
 Tyr Ile Arg Asn Ile Tyr Asn Pro Pro Glu Ser Asn Ala Ser Val Ile  
 945 950 955 960  
 Phe Asp Tyr Ser Asp Asp Gly Arg Ile Leu Lys Thr Ser Phe Leu Gly  
 965 970 975  
 Thr Gly Arg Gln Val Phe Tyr Lys Tyr Gly Lys Leu Ser Lys Leu Ser  
 980 985 990  
 Glu Ile Val Tyr Asp Ser Thr Ala Val Thr Phe Gly Tyr Asp Glu Thr  
 995 1000 1005

Thr Gly Val Leu Lys Met Val Asn Leu Gln Ser Gly Gly Phe Ser Cys			
1010	1015	1020	
Thr Ile Arg Tyr Arg Lys Ile Gly Pro Leu Val Asp Lys Gln Ile Tyr			
1025	1030	1035	1040
Arg Phe Ser Glu Glu Gly Met Val Asn Ala Arg Phe Asp Tyr Thr Tyr			
1045	1050	1055	
His Asp Asn Ser Phe Arg Ile Ala Ser Ile Lys Pro Val Ile Ser Glu			
1060	1065	1070	
Thr Pro Leu Pro Val Asp Leu Tyr Arg Tyr Asp Glu Ile Ser Gly Lys			
1075	1080	1085	
Val Glu His Phe Gly Lys Phe Gly Val Ile Tyr Tyr Asp Ile Asn Gln			
1090	1095	1100	
Ile Ile Thr Thr Ala Val Met Thr Leu Ser Lys His Phe Asp Thr His			
1105	1110	1115	1120
Gly Arg Ile Lys Glu Val Gln Tyr Glu Met Phe Arg Ser Leu Met Tyr			
1125	1130	1135	
Trp Met Thr Val Gln Tyr Asp Ser Met Gly Arg Val Ile Lys Arg Glu			
1140	1145	1150	
Leu Lys Leu Gly Pro Tyr Ala Asn Thr Thr Lys Tyr Thr Tyr Asp Tyr			
1155	1160	1165	
Asp Gly Asp Gly Gln Leu Gln Ser Val Ala Val Asn Asp Arg Pro Thr			
1170	1175	1180	
Trp Arg Tyr Ser Tyr Asp Leu Asn Gly Asn Leu His Leu Leu Asn Pro			
1185	1190	1195	1200
Gly Asn Ser Val Arg Leu Met Pro Leu Arg Tyr Asp Leu Arg Asp Arg			
1205	1210	1215	
Ile Thr Arg Leu Gly Asp Val Gln Tyr Lys Ile Asp Asp Asp Gly Tyr			
1220	1225	1230	
Leu Cys Gln Arg Gly Ser Asp Ile Phe Glu Tyr Asn Ser Lys Gly Leu			
1235	1240	1245	
Leu Thr Arg Ala Tyr Asn Lys Ala Ser Gly Trp Ser Val Gln Tyr Arg			
1250	1255	1260	

Tyr Asp Gly Val Gly Arg Arg Ala Ser Tyr Lys Thr Asn Leu Gly His			
1265	1270	1275	1280
His Leu Gln Tyr Phe Tyr Ser Asp Leu His Asn Pro Thr Arg Ile Thr			
1285	1290	1295	
His Val Tyr Asn His Ser Asn Ser Glu Ile Thr Ser Leu Tyr Tyr Asp			
1300	1305	1310	
Leu Gln Gly His Leu Phe Ala Met Glu Ser Ser Ser Gly Glu Glu Tyr			
1315	1320	1325	
Tyr Val Ala Ser Asp Asn Thr Gly Thr Pro Leu Ala Val Phe Ser Ile			
1330	1335	1340	
Asn Gly Leu Met Ile Lys Gln Leu Gln Tyr Thr Ala Tyr Gly Glu Ile			
1345	1350	1355	1360
Tyr Tyr Asp Ser Asn Pro Asp Phe Gln Met Val Ile Gly Phe His Gly			
1365	1370	1375	
Gly Leu Tyr Asp Pro Leu Thr Lys Leu Val His Phe Thr Gln Arg Asp			
1380	1385	1390	
Tyr Asp Val Leu Ala Gly Arg Trp Thr Ser Pro Asp Tyr Thr Met Trp			
1395	1400	1405	
Lys Asn Val Gly Lys Glu Pro Ala Pro Phe Asn Leu Tyr Met Phe Lys			
1410	1415	1420	
Ser Asn Asn Pro Leu Ser Ser Glu Leu Asp Leu Lys Asn Tyr Val Thr			
1425	1430	1435	1440
Asp Val Lys Ser Trp Leu Val Met Phe Gly Phe Gln Leu Ser Asn Ile			
1445	1450	1455	
Ile Pro Gly Phe Pro Arg Ala Lys Met Tyr Phe Val Pro Pro Pro Tyr			
1460	1465	1470	
Glu Leu Ser Glu Ser Gln Ala Ser Glu Asn Gly Gln Leu Ile Thr Gly			
1475	1480	1485	
Val Gln Gln Thr Thr Glu Arg His Asn Gln Ala Phe Met Ala Leu Glu			
1490	1495	1500	
Gly Gln Val Ile Thr Lys Lys Leu His Ala Ser Ile Arg Glu Lys Ala			
1505	1510	1515	1520

Gly His Trp Phe Ala Thr Thr Thr Pro Ile Ile Gly Lys Gly Ile Met  
1525 1530 1535

Phe Ala Ile Lys Glu Gly Arg Val Thr Thr Gly Val Ser Ser Ile Ala  
1540 1545 1550

Ser Glu Asp Ser Arg Lys Val Ala Ser Val Leu Asn Asn Ala Tyr Tyr  
1555 1560 1565

Leu Asp Lys Met His Tyr Ser Ile Glu Gly Lys Asp Thr His Tyr Phe  
1570 1575 1580

Val Lys Ile Gly Ser Ala Asp Gly Asp Leu Val Thr Leu Gly Thr Thr  
1585 1590 1595 1600

Ile Gly Arg Lys Val Leu Glu Ser Gly Val Asn Val Thr Val Ser Gln  
1605 1610 1615

Pro Thr Leu Leu Val Asn Gly Arg Thr Arg Arg Phe Thr Asn Ile Glu  
1620 1625 1630

Phe Gln Tyr Ser Thr Leu Leu Leu Ser Ile Arg Tyr Gly Leu Thr Pro  
1635 1640 1645

Asp Thr Leu Asp Glu Glu Lys Ala Arg Val Leu Asp Gln Ala Arg Gln  
1650 1655 1660

Arg Ala Leu Gly Thr Ala Trp Ala Lys Glu Gln Gln Lys Ala Arg Asp  
1665 1670 1675 1680

Gly Arg Glu Gly Ser Arg Leu Trp Thr Glu Gly Glu Lys Gln Gln Leu  
1685 1690 1695

Leu Ser Thr Gly Arg Val Gln Gly Tyr Glu Gly Tyr Tyr Val Leu Pro  
1700 1705 1710

Val Glu Gln Tyr Pro Glu Leu Ala Asp Ser Ser Ser Asn Ile Gln Phe  
1715 1720 1725

Leu Arg Gln Asn Glu Met Gly Lys Arg  
1730 1735

<210> 72

<211> 2765

<212> PRT

<213> Rattus norvegicus

<400> 72

Met	Asp	Val	Lys	Asp	Arg	Arg	His	Arg	Ser	Leu	Thr	Arg	Gly	Arg	Cys
1				5					10					15	
Gly	Lys	Glu	Cys	Arg	Tyr	Thr	Ser	Ser	Ser	Leu	Asp	Ser	Glu	Asp	Cys
			20					25					30		
Arg	Val	Pro	Thr	Gln	Lys	Ser	Tyr	Ser	Ser	Ser	Glu	Thr	Leu	Lys	Ala
		35					40					45			
Tyr	Asp	His	Asp	Ser	Arg	Met	His	Tyr	Gly	Asn	Arg	Val	Thr	Asp	Leu
	50					55					60				
Val	His	Arg	Glu	Ser	Asp	Glu	Phe	Ser	Arg	Gln	Gly	Ala	Asn	Phe	Thr
65					70					75					80
Leu	Ala	Glu	Leu	Gly	Ile	Cys	Glu	Pro	Ser	Pro	His	Arg	Ser	Gly	Tyr
				85					90					95	
Cys	Ser	Asp	Met	Gly	Ile	Leu	His	Gln	Gly	Tyr	Ser	Leu	Ser	Thr	Gly
			100					105					110		
Ser	Asp	Ala	Asp	Ser	Asp	Thr	Glu	Gly	Gly	Met	Ser	Pro	Glu	His	Ala
		115					120					125			
Ile	Arg	Leu	Trp	Gly	Arg	Gly	Ile	Lys	Ser	Arg	Arg	Ser	Ser	Gly	Leu
	130					135					140				
Ser	Ser	Arg	Glu	Asn	Ser	Ala	Leu	Thr	Leu	Thr	Asp	Ser	Asp	Asn	Glu
145					150					155				160	
Asn	Lys	Ser	Asp	Asp	Asp	Asn	Gly	Arg	Pro	Ile	Pro	Pro	Thr	Ser	Ser
			165					170						175	
Ser	Ser	Leu	Leu	Pro	Ser	Ala	Gln	Leu	Pro	Ser	Ser	His	Asn	Pro	Pro
		180						185					190		
Pro	Val	Ser	Cys	Gln	Met	Pro	Leu	Leu	Asp	Ser	Asn	Thr	Ser	His	Gln
		195					200					205			
Ile	Met	Asp	Thr	Asn	Pro	Asp	Glu	Glu	Phe	Ser	Pro	Asn	Ser	Tyr	Leu
	210					215					220				
Leu	Arg	Ala	Cys	Ser	Gly	Pro	Gln	Gln	Ala	Ser	Ser	Ser	Gly	Pro	Pro
225					230					235				240	
Asn	His	His	Ser	Gln	Ser	Thr	Leu	Arg	Pro	Pro	Leu	Pro	Pro	Pro	His

245	250	255
Asn His Thr Leu Ser His His His Ser Ser Ala Asn Ser Leu Asn Arg		
260	265	270
Asn Ser Leu Thr Asn Arg Arg Ser Gln Ile His Ala Pro Ala Pro Ala		
275	280	285
Pro Asn Asp Leu Ala Thr Thr Pro Glu Ser Val Gln Leu Gln Asp Ser		
290	295	300
Trp Val Leu Asn Ser Asn Val Pro Leu Glu Thr Arg His Phe Leu Phe		
305	310	315
Lys Thr Ser Ser Gly Ser Thr Pro Leu Phe Ser Ser Ser Ser Pro Gly		
325	330	335
Tyr Pro Leu Thr Ser Gly Thr Val Tyr Thr Pro Pro Pro Arg Leu Leu		
340	345	350
Pro Arg Asn Thr Phe Ser Arg Lys Ala Phe Lys Leu Lys Lys Pro Ser		
355	360	365
Lys Tyr Cys Ser Trp Lys Cys Ala Ala Leu Ser Ala Ile Ala Ala Ala		
370	375	380
Leu Leu Leu Ala Ile Leu Leu Ala Tyr Phe Ile Ala Met His Leu Leu		
385	390	395
Gly Leu Asn Trp Gln Leu Gln Pro Ala Asp Gly His Thr Phe Asn Asn		
405	410	415
Gly Val Arg Thr Gly Leu Pro Gly Asn Asp Asp Val Ala Thr Val Pro		
420	425	430
Ser Gly Gly Lys Val Pro Trp Ser Leu Lys Asn Ser Ser Ile Asp Ser		
435	440	445
Gly Glu Ala Glu Val Gly Arg Arg Val Thr Gln Glu Val Pro Pro Gly		
450	455	460
Val Phe Trp Arg Ser Gln Ile His Ile Ser Gln Pro Gln Phe Leu Lys		
465	470	475
Phe Asn Ile Ser Leu Gly Lys Asp Ala Leu Phe Gly Val Tyr Ile Arg		
485	490	495
Arg Gly Leu Pro Pro Ser His Ala Gln Tyr Asp Phe Met Glu Arg Leu		



500	505	510
Asp Gly Lys Glu Lys Trp Ser Val Val Glu Ser Pro Arg Glu Arg Arg		
515	520	525
Ser Ile Gln Thr Leu Val Gln Asn Glu Ala Val Phe Val Gln Tyr Leu		
530	535	540
Asp Val Gly Leu Trp His Leu Ala Phe Tyr Asn Asp Gly Lys Asp Lys		
545	550	555
Glu Met Val Ser Phe Asn Thr Val Val Leu Asp Ser Val Gln Asp Cys		
565	570	575
Pro Arg Asn Cys His Gly Asn Gly Glu Cys Val Ser Gly Leu Cys His		
580	585	590
Cys Phe Pro Gly Phe Leu Gly Ala Asp Cys Ala Lys Ala Ala Cys Pro		
595	600	605
Val Leu Cys Ser Gly Asn Gly Gln Tyr Ser Lys Gly Thr Cys Gln Cys		
610	615	620
Tyr Ser Gly Trp Lys Gly Ala Glu Cys Asp Val Pro Met Asn Gln Cys		
625	630	635
Ile Asp Pro Ser Cys Gly Gly His Gly Ser Cys Ile Asp Gly Asn Cys		
645	650	655
Val Cys Ala Ala Gly Tyr Lys Gly Glu His Cys Glu Glu Val Asp Cys		
660	665	670
Leu Asp Pro Thr Cys Ser Ser His Gly Val Cys Val Asn Gly Glu Cys		
675	680	685
Leu Cys Ser Pro Gly Trp Gly Gly Leu Asn Cys Glu Leu Ala Arg Val		
690	695	700
Gln Cys Pro Asp Gln Cys Ser Gly His Gly Thr Tyr Leu Pro Asp Ser		
705	710	715
Gly Leu Cys Asn Cys Asp Pro Asn Trp Met Gly Pro Asp Cys Ser Val		
725	730	735
Glu Val Cys Ser Val Asp Cys Gly Thr His Gly Val Cys Ile Gly Gly		
740	745	750
Ala Cys Arg Cys Glu Glu Gly Trp Thr Gly Ala Ala Cys Asp Gln Arg		

755		760		765
Val Cys His Pro Arg Cys Ile Glu His Gly Thr Cys Lys Asp Gly Lys				
770		775		780
Cys Glu Cys Arg Glu Gly Trp Asn Gly Glu His Cys Thr Ile Asp Gly				
785		790		795
				800
Cys Pro Asp Leu Cys Asn Gly Asn Gly Arg Cys Thr Leu Gly Gln Asn				
	805		810	815
Ser Trp Gln Cys Val Cys Gln Thr Gly Trp Arg Gly Pro Gly Cys Asn				
	820		825	830
Val Ala Met Glu Thr Ser Cys Ala Asp Asn Lys Asp Asn Glu Gly Asp				
	835		840	845
Gly Leu Val Asp Cys Leu Asp Pro Asp Cys Cys Leu Gln Ser Ala Cys				
	850		855	860
Gln Asn Ser Leu Leu Cys Arg Gly Ser Arg Asp Pro Leu Asp Ile Ile				
	865		870	875
				880
Gln Gln Gly Gln Thr Asp Trp Pro Ala Val Lys Ser Phe Tyr Asp Arg				
	885		890	895
Ile Lys Leu Leu Ala Gly Lys Asp Ser Thr His Ile Ile Pro Gly Asp				
	900		905	910
Asn Pro Phe Asn Ser Ser Leu Val Ser Leu Ile Arg Gly Gln Val Val				
	915		920	925
Thr Thr Asp Gly Thr Pro Leu Val Gly Val Asn Val Ser Phe Val Lys				
	930		935	940
Tyr Pro Lys Tyr Gly Tyr Thr Ile Thr Arg Gln Asp Gly Thr Phe Asp				
	945		950	955
				960
Leu Ile Ala Asn Gly Gly Ser Ala Leu Thr Leu His Phe Glu Arg Ala				
	965		970	975
Pro Phe Met Ser Arg Glu Arg Thr Val Trp Pro Pro Trp Asn Ser Phe				
	980		985	990
Tyr Ala Met Asp Thr Leu Val Met Lys Thr Glu Glu Asn Ser Ile Pro				
	995		1000	1005
Ser Cys Asp Leu Ser Gly Phe Val Arg Pro Asp Pro Ile Ile Ile Ser				

1010	1015	1020
Ser Pro Leu Ser Thr Phe Phe Ser Ala Ser Pro Ala Ala Asn Pro Ile		
1025	1030	1035 1040
Val Pro Glu Thr Gln Val Leu His Glu Glu Ile Glu Leu Pro Gly Thr		
1045	1050	1055
Asn Val Lys Leu Arg Tyr Leu Ser Ser Arg Thr Ala Gly Tyr Lys Ser		
1060	1065	1070
Leu Leu Lys Ile Thr Met Thr Gln Ser Thr Val Pro Leu Asn Leu Ile		
1075	1080	1085
Arg Val His Leu Met Val Ala Val Glu Gly His Leu Phe Gln Lys Ser		
1090	1095	1100
Phe Gln Ala Ser Pro Asn Leu Ala Tyr Thr Phe Ile Trp Asp Lys Thr		
1105	1110	1115 1120
Asp Ala Tyr Gly Gln Arg Val Tyr Gly Leu Ser Asp Ala Val Val Ser		
1125	1130	1135
Val Gly Phe Glu Tyr Glu Thr Cys Pro Ser Leu Ile Leu Trp Glu Lys		
1140	1145	1150
Arg Thr Ala Leu Leu Gln Gly Phe Glu Leu Asp Pro Ser Asn Leu Gly		
1155	1160	1165
Gly Trp Ser Leu Asp Lys His His Thr Leu Asn Val Lys Ser Gly Ile		
1170	1175	1180
Leu Leu Lys Gly Thr Gly Glu Asn Gln Phe Leu Thr Gln Gln Pro Ala		
1185	1190	1195 1200
Ile Ile Thr Ser Ile Met Gly Asn Gly Arg Arg Arg Ser Ile Ser Cys		
1205	1210	1215
Pro Ser Cys Asn Gly Leu Ala Glu Gly Asn Lys Leu Leu Ala Pro Val		
1220	1225	1230
Ala Leu Ala Val Gly Ile Asp Gly Ser Leu Phe Val Gly Asp Phe Asn		
1235	1240	1245
Tyr Ile Arg Arg Ile Phe Pro Ser Arg Asn Val Thr Ser Ile Leu Glu		
1250	1255	1260
Leu Arg Asn Lys Glu Phe Lys His Ser Asn Ser Pro Gly His Lys Tyr		

1265	1270	1275	1280
Tyr Leu Ala Val Asp Pro Val Thr Gly Ser Leu Tyr Val Ser Asp Thr			
1285	1290	1295	
Asn Ser Arg Arg Ile Tyr Arg Val Lys Ser Leu Ser Gly Ala Lys Asp			
1300	1305	1310	
Leu Ala Gly Asn Ser Glu Val Val Ala Gly Thr Gly Glu Gln Cys Leu			
1315	1320	1325	
Pro Phe Asp Glu Ala Arg Cys Gly Asp Gly Gly Lys Ala Val Asp Ala			
1330	1335	1340	
Thr Leu Met Ser Pro Arg Gly Ile Ala Val Asp Lys Asn Gly Leu Met			
1345	1350	1355	1360
Tyr Phe Val Asp Ala Thr Met Ile Arg Lys Val Asp Gln Asn Gly Ile			
1365	1370	1375	
Ile Ser Thr Leu Leu Gly Ser Asn Asp Leu Thr Ala Val Arg Pro Leu			
1380	1385	1390	
Ser Cys Asp Ser Ser Met Asp Val Ala Gln Val Arg Leu Glu Trp Pro			
1395	1400	1405	
Thr Asp Leu Ala Val Asn Pro Met Asp Asn Ser Leu Tyr Val Leu Glu			
1410	1415	1420	
Asn Asn Val Ile Leu Arg Ile Thr Glu Asn His Gln Val Ser Ile Ile			
1425	1430	1435	1440
Ala Gly Arg Pro Met His Cys Gln Val Pro Gly Ile Asp Tyr Ser Leu			
1445	1450	1455	
Ser Lys Leu Ala Ile His Ser Ala Leu Glu Ser Ala Ser Ala Ile Ala			
1460	1465	1470	
Ile Ser His Thr Gly Val Leu Tyr Ile Thr Glu Thr Asp Glu Lys Lys			
1475	1480	1485	
Ile Asn Arg Leu Arg Gln Val Thr Thr Asn Gly Glu Ile Cys Leu Leu			
1490	1495	1500	
Ala Gly Ala Ala Ser Asp Cys Asp Cys Lys Asn Asp Val Asn Cys Ile			
1505	1510	1515	1520
Cys Tyr Ser Gly Asp Asp Ala Tyr Ala Thr Asp Ala Ile Leu Asn Ser			

1525	1530	1535
Pro Ser Ser Leu Ala Val Ala Pro Asp Gly Thr Ile Tyr Ile Ala Asp		
1540	1545	1550
Leu Gly Asn Ile Arg Ile Arg Ala Val Ser Lys Asn Lys Pro Val Leu		
1555	1560	1565
Asn Ala Phe Asn Gln Tyr Glu Ala Ala Ser Pro Gly Glu Gln Glu Leu		
1570	1575	1580
Tyr Val Phe Asn Ala Asp Gly Ile His Gln Tyr Thr Val Ser Leu Val		
1585	1590	1595
Thr Gly Glu Tyr Leu Tyr Asn Phe Thr Tyr Ser Ala Asp Asn Asp Val		
1605	1610	1615
Thr Glu Leu Ile Asp Asn Asn Gly Asn Ser Leu Lys Ile Arg Arg Asp		
1620	1625	1630
Ser Ser Gly Met Pro Arg His Leu Leu Met Pro Asp Asn Gln Ile Ile		
1635	1640	1645
Thr Leu Thr Val Gly Thr Asn Gly Gly Leu Lys Ala Val Ser Thr Gln		
1650	1655	1660
Asn Leu Glu Leu Gly Leu Met Thr Tyr Asp Gly Asn Thr Gly Leu Leu		
1665	1670	1675
Ala Thr Lys Ser Asp Glu Thr Gly Trp Thr Thr Phe Tyr Asp Tyr Asp		
1685	1690	1695
His Glu Gly Arg Leu Thr Asn Val Thr Arg Pro Thr Gly Val Val Thr		
1700	1705	1710
Ser Leu His Arg Glu Met Glu Lys Ser Ile Thr Val Asp Ile Glu Asn		
1715	1720	1725
Ser Asn Arg Asp Asn Asp Val Thr Val Ile Thr Asn Leu Ser Ser Val		
1730	1735	1740
Glu Ala Ser Tyr Thr Val Val Gln Asp Gln Val Arg Asn Ser Tyr Gln		
1745	1750	1755
Leu Cys Ser Asn Gly Thr Leu Arg Val Met Tyr Ala Asn Gly Met Gly		
1765	1770	1775
Val Ser Phe His Ser Glu Pro His Val Leu Ala Gly Thr Leu Thr Pro		

1780	1785	1790
Thr Ile Gly Arg Cys Asn Ile Ser Leu Pro Met Glu Asn Gly Leu Asn		
1795	1800	1805
Ser Ile Glu Trp Arg Leu Arg Lys Glu Gln Ile Lys Gly Lys Val Thr		
1810	1815	1820
Ile Phe Gly Arg Lys Leu Arg Val His Gly Arg Asn Leu Leu Ser Ile		
1825	1830	1835 1840
Asp Tyr Asp Arg Asn Ile Arg Thr Glu Lys Ile Tyr Asp Asp His Arg		
1845	1850	1855
Lys Phe Thr Leu Arg Ile Ile Tyr Asp Gln Val Gly Arg Pro Phe Leu		
1860	1865	1870
Trp Leu Pro Ser Ser Gly Leu Ala Ala Val Asn Val Ser Tyr Phe Phe		
1875	1880	1885
Asn Gly Arg Leu Ala Gly Leu Gln Arg Gly Ala Met Ser Glu Arg Thr		
1890	1895	1900
Asp Ile Asp Lys Gln Gly Arg Ile Val Ser Arg Met Phe Ala Asp Gly		
1905	1910	1915 1920
Lys Val Trp Ser Tyr Ser Tyr Leu Asp Lys Ser Met Val Leu Leu Leu		
1925	1930	1935
Gln Ser Gln Arg Gln Tyr Ile Phe Glu Tyr Asp Ser Ser Asp Arg Leu		
1940	1945	1950
His Ala Val Thr Met Pro Ser Val Ala Arg His Ser Met Ser Thr His		
1955	1960	1965
Thr Ser Ile Gly Tyr Ile Arg Asn Ile Tyr Asn Pro Pro Glu Ser Asn		
1970	1975	1980
Ala Ser Val Ile Phe Asp Tyr Ser Asp Asp Gly Arg Ile Leu Lys Thr		
1985	1990	1995 2000
Ser Phe Leu Gly Thr Gly Arg Gln Val Phe Tyr Lys Tyr Gly Lys Leu		
2005	2010	2015
Ser Lys Leu Ser Glu Ile Val Tyr Asp Ser Thr Ala Val Thr Phe Gly		
2020	2025	2030
Tyr Asp Glu Thr Thr Gly Val Leu Lys Met Val Asn Leu Gln Ser Gly		

2035	2040	2045
Gly Phe Ser Cys Thr Ile Arg Tyr Arg Lys Val Gly Pro Leu Val Asp		
2050	2055	2060
Lys Gln Ile Tyr Arg Phe Ser Glu Glu Gly Met Ile Asn Ala Arg Phe		
2065	2070	2075
2080		
Asp Tyr Thr Tyr His Asp Asn Ser Phe Arg Ile Ala Ser Ile Lys Pro		
2085	2090	2095
Val Ile Ser Glu Thr Pro Leu Pro Val Asp Leu Tyr Arg Tyr Asp Glu		
2100	2105	2110
Ile Ser Gly Lys Val Glu His Phe Gly Lys Phe Gly Val Ile Tyr Tyr		
2115	2120	2125
Asp Ile Asn Gln Ile Ile Thr Thr Ala Val Met Thr Leu Ser Lys His		
2130	2135	2140
Phe Asp Thr His Gly Arg Ile Lys Glu Val Gln Tyr Glu Met Phe Arg		
2145	2150	2155
2160		
Ser Leu Met Tyr Trp Met Thr Val Gln Tyr Asp Ser Met Gly Arg Val		
2165	2170	2175
Ile Lys Arg Glu Leu Lys Leu Gly Pro Tyr Ala Asn Thr Thr Lys Tyr		
2180	2185	2190
Thr Tyr Asp Tyr Asp Gly Asp Gly Gln Leu Gln Ser Val Ala Val Asn		
2195	2200	2205
Asp Arg Pro Thr Trp Arg Tyr Ser Tyr Asp Leu Asn Gly Asn Leu His		
2210	2215	2220
Leu Leu Asn Pro Gly Asn Ser Ala Arg Leu Met Pro Leu Arg Tyr Asp		
2225	2230	2235
2240		
Leu Arg Asp Arg Ile Thr Arg Leu Gly Asp Val Gln Tyr Lys Ile Asp		
2245	2250	2255
Asp Asp Gly Tyr Leu Cys Gln Arg Gly Ser Asp Ile Phe Glu Tyr Asn		
2260	2265	2270
Ser Lys Gly Leu Leu Thr Arg Ala Tyr Asn Lys Ala Ser Gly Trp Ser		
2275	2280	2285
Val Gln Tyr Arg Tyr Asp Gly Val Ser Arg Arg Ala Ser Tyr Lys Thr		

2290	2295	2300
Asn Leu Gly His His Leu Gln Tyr Phe Tyr Ser Asp Leu His His Pro		
2305	2310	2315 2320
Thr Arg Ile Thr His Val Tyr Asn His Ser Asn Ser Glu Ile Thr Ser		
2325	2330	2335
Leu Tyr Tyr Asp Leu Gln Gly His Leu Phe Ala Met Glu Ser Ser Ser		
2340	2345	2350
Gly Glu Glu Tyr Tyr Val Ala Ser Asp Asn Thr Gly Thr Pro Leu Ala		
2355	2360	2365
Val Phe Ser Ile Asn Gly Leu Met Ile Lys Gln Leu Gln Tyr Thr Ala		
2370	2375	2380
Tyr Gly Glu Ile Tyr Tyr Asp Ser Asn Pro Asp Phe Gln Met Val Ile		
2385	2390	2395 2400
Gly Phe His Gly Gly Leu Tyr Asp Pro Leu Thr Lys Leu Val His Phe		
2405	2410	2415
Thr Gln Arg Asp Tyr Asp Val Leu Ala Gly Arg Trp Thr Ser Pro Asp		
2420	2425	2430
Tyr Thr Met Trp Arg Asn Val Gly Lys Glu Pro Ala Pro Phe Asn Leu		
2435	2440	2445
Tyr Met Phe Lys Asn Asn Asn Pro Leu Ser Asn Glu Leu Asp Leu Lys		
2450	2455	2460
Asn Tyr Val Thr Asp Val Lys Ser Trp Leu Val Met Phe Gly Phe Gln		
2465	2470	2475 2480
Leu Ser Asn Ile Ile Pro Gly Phe Pro Arg Ala Lys Met Tyr Phe Val		
2485	2490	2495
Pro Pro Pro Tyr Glu Leu Ser Glu Ser Gln Ala Ser Glu Asn Gly Gln		
2500	2505	2510
Leu Ile Thr Gly Val Gln Gln Thr Thr Glu Arg His Asn Gln Ala Phe		
2515	2520	2525
Leu Ala Leu Glu Gly Gln Val Ile Ser Lys Lys Leu His Ala Gly Ile		
2530	2535	2540
Arg Glu Lys Ala Gly His Trp Phe Ala Thr Thr Thr Pro Ile Ile Gly		



2545	2550	2555	2560
Lys Gly Ile Met Phe Ala Ile Lys Glu Gly Arg Val Thr Thr Gly Val			
2565	2570	2575	
Ser Ser Ile Ala Ser Glu Asp Ser Arg Lys Val Ala Ser Val Leu Asn			
2580	2585	2590	
Asn Ala Tyr Tyr Leu Asp Lys Met His Tyr Ser Ile Glu Gly Lys Asp			
2595	2600	2605	
Thr His Tyr Phe Val Lys Ile Gly Ala Ala Asp Gly Asp Leu Val Thr			
2610	2615	2620	
Leu Gly Thr Thr Ile Gly Arg Lys Val Leu Glu Ser Gly Val Asn Val			
2625	2630	2635	2640
Thr Val Ser Gln Pro Thr Leu Leu Val Asn Gly Arg Thr Arg Arg Phe			
2645	2650	2655	
Thr Asn Ile Glu Phe Gln Tyr Ser Thr Leu Leu Leu Ser Ile Arg Tyr			
2660	2665	2670	
Gly Leu Thr Pro Asp Thr Leu Asp Glu Glu Lys Ala Arg Val Leu Asp			
2675	2680	2685	
Gln Ala Arg Gln Arg Ala Leu Gly Thr Ala Trp Ala Lys Glu Gln Gln			
2690	2695	2700	
Lys Ala Arg Asp Gly Arg Glu Gly Ser Arg Leu Trp Thr Glu Gly Glu			
2705	2710	2715	2720
Lys Gln Gln Leu Leu Ser Thr Gly Arg Val Gln Gly Tyr Glu Gly Tyr			
2725	2730	2735	
Tyr Val Leu Pro Val Glu Gln Tyr Pro Glu Leu Ala Asp Ser Ser Ser			
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2755	2760	2765	

<210> 73

<211> 86

<212> PRT

<213> Trypanosoma cruzi

<400> 73

Met Ile Asn Asn Lys His Gln Thr Ile Pro Thr Thr His Ser Tyr Thr  
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20 25 30

Asn His Tyr Asn Ser Ile Ser His Tyr Tyr Thr Asn Thr Gln Leu Ser  
35 40 45

Asn Ser Arg Cys Thr Ser Tyr Pro Ile Gln Leu His Lys Phe Ile Asn  
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Thr Tyr Ser Ser Ile Leu His Gln Pro Gln Ser Asn Pro Thr Ser Pro  
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Lys Ile Pro Pro Asn Pro  
85

<210> 74  
<211> 533  
<212> PRT  
<213> Aedes aegypti

<400> 74  
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Val Leu Ile Leu Thr Leu Asn Leu Ala Leu Phe Leu Pro Gln Thr Ile  
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Asn Arg Thr Pro Pro Tyr Val Leu Ala Gly Thr Gly Gly Gly Ser Met  
35 40 45

Leu Gly Asp Val Asn Ile Ser Ala Ile Leu Asp Ser Phe Ser Val Gly  
50 55 60

Tyr Asp Lys Arg Val Arg Pro Asn Tyr Gly Gly Pro Pro Val Glu Val  
65 70 75 80

Gly Val Thr Met Tyr Val Leu Ser Ile Ser Ser Val Ser Glu Val Leu  
85 90 95

Met Asp Phe Thr Leu Asp Phe Tyr Phe Arg Gln Phe Trp Thr Asp Pro  
100 105 110

Arg Leu Ala Tyr Arg Lys Arg Pro Gly Val Glu Thr Leu Ser Val Gly  
115 120 125

Ser	Glu	Phe	Ile	Lys	Asn	Ile	Trp	Val	Pro	Asp	Thr	Phe	Phe	Val	Asn	130	135	140	
Glu	Lys	Gln	Ser	Tyr	Phe	His	Ile	Ala	Thr	Thr	Ser	Asn	Glu	Phe	Ile	145	150	155	160
Arg	Val	His	His	Ser	Gly	Ser	Ile	Thr	Arg	Ser	Ile	Arg	Leu	Thr	Ile	165	170	175	
Thr	Ala	Ser	Cys	Pro	Met	Gly	Leu	Gln	Tyr	Phe	Pro	Met	Asp	Arg	Gln	180	185	190	
Leu	Cys	His	Ile	Glu	Ile	Glu	Ser	Phe	Gly	Tyr	Thr	Met	Arg	Asp	Ile	195	200	205	
Arg	Tyr	Phe	Trp	Lys	Asp	Gly	Leu	Ser	Ser	Val	Gly	Met	Ser	Ser	Glu	210	215	220	
Val	Glu	Leu	Pro	Gln	Phe	Arg	Val	Leu	Gly	His	Arg	Gln	Arg	Ala	Thr	225	230	235	240
Glu	Ile	Asn	Leu	Thr	Thr	Gly	Asn	Tyr	Ser	Arg	Leu	Ala	Cys	Glu	Ile	245	250	255	
Gln	Phe	Val	Arg	Ser	Met	Gly	Tyr	Tyr	Leu	Ile	Gln	Ile	Tyr	Ile	Pro	260	265	270	
Ser	Gly	Leu	Ile	Val	Ile	Ile	Ser	Trp	Val	Ser	Phe	Trp	Leu	Asn	Arg	275	280	285	
Asp	Ala	Thr	Pro	Ala	Arg	Val	Ala	Leu	Gly	Val	Thr	Thr	Val	Leu	Thr	290	295	300	
Met	Thr	Thr	Leu	Met	Ser	Ser	Thr	Asn	Ala	Ala	Leu	Pro	Lys	Ile	Ser	305	310	315	320
Tyr	Val	Lys	Ser	Ile	Asp	Val	Tyr	Leu	Gly	Thr	Cys	Phe	Val	Met	Val	325	330	335	
Phe	Ala	Ser	Leu	Leu	Glu	Tyr	Ala	Thr	Val	Gly	Tyr	Met	Ala	Lys	Arg	340	345	350	
Ile	Gln	Ile	Gly	Lys	Gln	Arg	Phe	Met	Ala	Ile	Gln	Lys	Ile	Ala	Glu	355	360	365	
Gln	Lys	Lys	Gln	Gln	Ala	Ala	Asp	Ala	Asn	His	Pro	Pro	Pro	Pro	Pro	370	375	380	

Pro Val Ser Asp His Ser His Gly His Gly His Gly His Ser His Gly  
 385 390 395 400

His Gln His Thr Pro Lys Gln Gln Met Gly Ser Arg Ser Gly Pro Leu  
 405 410 415

Phe Gln Glu Val Arg Phe Lys Val His Asp Pro Lys Ala His Ser Lys  
 420 425 430

Gly Gly Thr Leu Glu Asn Thr Ile Asn Gly Gly Arg Gly Gly Gly Gly  
 435 440 445

Pro Pro Gly Gly Gly Gly Gly Pro Pro Gly Gly Gly Gly Gly Gly Pro  
 450 455 460

Asp Glu Glu Ser Gly Ala Pro Gln His Leu Ile His Pro Gly Lys Asp  
 465 470 475 480

Ile Asn Lys Leu Leu Gly Ile Thr Pro Ser Asp Ile Asp Lys Tyr Ser  
 485 490 495

Arg Ile Val Phe Pro Val Cys Phe Val Cys Phe Asn Leu Met Tyr Trp  
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Ile Ile Tyr Leu His Val Ser Asp Val Val Ala Asp Asp Leu Val Leu  
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Leu Gly Glu Glu Lys  
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<210> 75

<211> 176

<212> PRT

<213> Leptinotarsa decemlineata

<400> 75

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Leu Pro Lys Ile Ser Tyr Val Lys Ser Ile Asp Val Tyr Leu Gly Thr  
 20 25 30

Cys Phe Val Met Val Phe Ala Ser Leu Leu Glu Tyr Ala Thr Val Gly  
 35 40 45

Tyr Met Ala Lys Arg Ile Gln Met Arg Lys Asn Arg Phe Leu Ala Ile

50		55		60	
Gln Lys Ile Ala Glu Gln Lys Lys Leu Asn Val Asp Gly Gly Pro Asp					
65		70		75	80
Gly Asp His Ala Pro Lys Gln Thr Glu Val Arg Phe Lys Val His Asp					
	85		90		95
Pro Lys Ala His Ser Lys Gly Gly Thr Leu Glu Ser Thr Val Asn Gly					
	100		105		110
Gly Arg Gly Gly Asp Arg Gly Gly Gly Gly Pro Asp Glu Glu Ala Ala					
	115		120		125
Gly Pro Thr Pro Gln His Ile Ile His Pro Asn Lys Asp Val Asn Lys					
	130		135		140
Leu Tyr Gly Met Thr Pro Ser Asp Ile Asp Lys Tyr Ser Arg Ile Val					
145		150		155	160
Phe Pro Val Cys Phe Val Cys Phe Asn Leu Met Tyr Trp Ile Ile Tyr					
	165		170		175

<210> 76  
 <211> 83  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 76
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Leu Ser Leu Cys Leu Leu Phe Cys Ser Leu Cys Trp Phe Cys Leu Asn
35 40 45
Glu Trp Phe Asn Asn Pro Phe Gly Asn Leu Leu Phe Asp Val Cys Leu
50 55 60
Val Thr Leu Gly Met Gln Asn Tyr Leu Glu Ser Trp Phe Gln Asn Leu
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Val Ser Phe

<210> 77  
<211> 71  
<212> PRT  
<213> Homo sapiens

<400> 77  
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Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe Lys Ser Ile Met Lys Lys  
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<211> 3318  
<212> DNA  
<213> Homo sapiens

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<210> 79  
<211> 2386  
<212> DNA  
<213> Homo sapiens

<400> 79

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<210> 80  
 <211> 487  
 <212> PRT  
 <213> Homo sapiens

<400> 80



Met	Pro	Gly	Pro	Arg	Val	Trp	Gly	Lys	Tyr	Leu	Trp	Arg	Ser	Pro	His	1	5	10	15
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Leu	Gln	Ala	Cys	Pro	Thr	Arg	Gly	Ser	Val	Leu	Leu	Ala	Gln	Glu	Leu	35	40	45	
Pro	Gln	Gln	Leu	Thr	Ser	Pro	Gly	Tyr	Pro	Glu	Pro	Tyr	Gly	Lys	Gly	50	55	60	
Gln	Glu	Ser	Ser	Thr	Asp	Ile	Lys	Ala	Pro	Glu	Gly	Phe	Ala	Val	Arg	65	70	75	80
Leu	Val	Phe	Gln	Asp	Phe	Asp	Leu	Glu	Pro	Ser	Gln	Asp	Cys	Ala	Gly	85	90	95	
Asp	Ser	Val	Thr	Ile	Ser	Phe	Val	Gly	Ser	Asp	Pro	Ser	Gln	Phe	Cys	100	105	110	
Gly	Gln	Gln	Gly	Ser	Pro	Leu	Gly	Arg	Pro	Pro	Gly	Gln	Arg	Glu	Phe	115	120	125	
Val	Ser	Ser	Gly	Arg	Ser	Leu	Arg	Leu	Thr	Phe	Arg	Thr	Gln	Pro	Ser	130	135	140	
Ser	Glu	Asn	Lys	Thr	Ala	His	Leu	His	Lys	Gly	Phe	Leu	Ala	Leu	Tyr	145	150	155	160
Gln	Thr	Val	Ala	Val	Asn	Tyr	Ser	Gln	Pro	Ile	Ser	Glu	Ala	Ser	Arg	165	170	175	
Gly	Ser	Glu	Ala	Ile	Asn	Ala	Pro	Gly	Asp	Asn	Pro	Ala	Lys	Val	Gln	180	185	190	
Asn	His	Cys	Gln	Glu	Pro	Tyr	Tyr	Gln	Ala	Ala	Ala	Ala	Gly	Ala	Leu	195	200	205	
Thr	Cys	Ala	Thr	Pro	Gly	Thr	Trp	Lys	Asp	Arg	Gln	Asp	Gly	Glu	Glu	210	215	220	
Val	Leu	Gln	Cys	Met	Pro	Val	Cys	Gly	Arg	Pro	Val	Thr	Pro	Ile	Ala	225	230	235	240
Gln	Asn	Gln	Thr	Thr	Leu	Gly	Ser	Ser	Arg	Ala	Lys	Leu	Gly	Asn	Phe	245	250	255	

Pro Trp Gln Ala Phe Thr Ser Ile His Gly Arg Gly Gly Gly Ala Leu  
260 265 270

Leu Gly Asp Arg Trp Ile Leu Thr Ala Ala His Thr Val Tyr Pro Lys  
275 280 285

Asp Ser Val Ser Leu Arg Lys Asn Gln Ser Val Asn Val Phe Leu Gly  
290 295 300

His Thr Ala Ile Asp Glu Met Leu Lys Leu Gly Asn His Pro Val His  
305 310 315 320

Arg Val Val Val His Pro Asp Tyr Arg Gln Asn Glu Ser His Asn Phe  
325 330 335

Ser Gly Asp Ile Ala Leu Leu Glu Leu Gln His Ser Ile Pro Leu Gly  
340 345 350

Pro Asn Val Leu Pro Val Cys Leu Pro Asp Asn Glu Thr Leu Tyr Arg  
355 360 365

Ser Gly Leu Leu Gly Tyr Val Ser Gly Phe Gly Met Glu Met Gly Trp  
370 375 380

Leu Thr Thr Glu Leu Lys Tyr Ser Arg Leu Pro Val Ala Pro Arg Glu  
385 390 395 400

Ala Cys Asn Ala Trp Leu Gln Lys Arg Gln Arg Pro Glu Val Phe Ser  
405 410 415

Asp Asn Met Phe Cys Val Gly Asp Glu Thr Gln Arg His Ser Val Cys  
420 425 430

Gln Gly Asp Ser Gly Ser Val Tyr Val Val Trp Asp Asn His Ala His  
435 440 445

His Trp Val Ala Thr Gly Ile Val Ser Trp Gly Ile Gly Cys Gly Glu  
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Gly Tyr Asp Phe Tyr Thr Lys Val Leu Ser Tyr Val Asp Trp Ile Lys  
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Gly Val Met Asn Gly Lys Asn  
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<210> 81

<211> 705

<212> PRT

<213> Homo sapiens

<400> 81

Met	Trp	Leu	Leu	Tyr	Leu	Leu	Val	Pro	Ala	Leu	Phe	Cys	Arg	Ala	Gly
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Gly	Ser	Ile	Pro	Ile	Pro	Gln	Lys	Leu	Phe	Gly	Glu	Val	Thr	Ser	Pro
			20					25					30		
Leu	Phe	Pro	Lys	Pro	Tyr	Pro	Asn	Asn	Phe	Glu	Thr	Thr	Thr	Val	Ile
		35					40					45			
Thr	Val	Pro	Thr	Gly	Tyr	Arg	Val	Lys	Leu	Val	Phe	Gln	Gln	Phe	Asp
	50					55					60				
Leu	Glu	Pro	Ser	Glu	Gly	Cys	Phe	Tyr	Asp	Tyr	Val	Lys	Ile	Ser	Ala
65					70					75					80
Asp	Lys	Lys	Ser	Leu	Gly	Arg	Phe	Cys	Gly	Gln	Leu	Gly	Ser	Pro	Leu
				85					90					95	
Gly	Asn	Pro	Pro	Gly	Lys	Lys	Glu	Phe	Met	Ser	Gln	Gly	Asn	Lys	Met
		100						105					110		
Leu	Leu	Thr	Phe	His	Thr	Asp	Phe	Ser	Asn	Glu	Glu	Asn	Gly	Thr	Ile
		115					120					125			
Met	Phe	Tyr	Lys	Gly	Phe	Leu	Ala	Tyr	Tyr	Gln	Ala	Val	Asp	Leu	Asp
	130					135					140				
Glu	Cys	Ala	Ser	Arg	Ser	Lys	Ser	Gly	Glu	Glu	Asp	Pro	Gln	Pro	Gln
145					150					155					160
Cys	Gln	His	Leu	Cys	His	Asn	Tyr	Val	Gly	Gly	Tyr	Phe	Cys	Ser	Cys
			165						170					175	
Arg	Pro	Gly	Tyr	Glu	Leu	Gln	Glu	Asp	Arg	His	Ser	Cys	Gln	Ala	Glu
		180						185					190		
Cys	Ser	Ser	Glu	Leu	Tyr	Thr	Glu	Ala	Ser	Gly	Tyr	Ile	Ser	Ser	Leu
		195					200					205			
Glu	Tyr	Pro	Arg	Ser	Tyr	Pro	Pro	Asp	Leu	Arg	Cys	Asn	Tyr	Ser	Ile
	210					215					220				
Arg	Val	Glu	Arg	Gly	Leu	Thr	Leu	His	Leu	Lys	Phe	Leu	Glu	Pro	Phe
225					230					235					240

Asp	Ile	Asp	Asp	His	Gln	Gln	Val	His	Cys	Pro	Tyr	Asp	Gln	Leu	Gln	245	250	255
Ile	Tyr	Ala	Asn	Gly	Lys	Asn	Ile	Gly	Glu	Phe	Cys	Gly	Lys	Gln	Arg	260	265	270
Pro	Pro	Asp	Leu	Asp	Thr	Ser	Ser	Asn	Ala	Val	Asp	Leu	Leu	Phe	Phe	275	280	285
Thr	Asp	Glu	Ser	Gly	Asp	Ser	Arg	Gly	Trp	Lys	Leu	Arg	Tyr	Thr	Thr	290	295	300
Glu	Ile	Ile	Lys	Cys	Pro	Gln	Pro	Lys	Thr	Leu	Asp	Glu	Phe	Thr	Ile	305	310	315
Ile	Gln	Asn	Leu	Gln	Pro	Gln	Tyr	Gln	Phe	Arg	Asp	Tyr	Phe	Ile	Ala	325	330	335
Thr	Cys	Lys	Gln	Gly	Tyr	Gln	Leu	Ile	Glu	Gly	Asn	Gln	Val	Leu	His	340	345	350
Ser	Phe	Thr	Ala	Val	Cys	Gln	Asp	Asp	Gly	Thr	Trp	His	Arg	Ala	Met	355	360	365
Pro	Arg	Cys	Lys	Ile	Lys	Asp	Cys	Gly	Gln	Pro	Arg	Asn	Leu	Pro	Asn	370	375	380
Gly	Asp	Phe	Arg	Tyr	Thr	Thr	Thr	Met	Gly	Val	Asn	Thr	Tyr	Lys	Ala	385	390	395
Arg	Ile	Gln	Tyr	Tyr	Cys	His	Glu	Pro	Tyr	Tyr	Lys	Met	Gln	Thr	Arg	405	410	415
Ala	Gly	Ser	Arg	Glu	Ser	Glu	Gln	Gly	Val	Tyr	Thr	Cys	Thr	Ala	Gln	420	425	430
Gly	Ile	Trp	Lys	Asn	Glu	Gln	Lys	Gly	Glu	Lys	Ile	Pro	Arg	Cys	Leu	435	440	445
Pro	Val	Cys	Gly	Lys	Pro	Val	Asn	Pro	Val	Glu	Gln	Arg	Gln	Arg	Ile	450	455	460
Ile	Gly	Gly	Gln	Lys	Ala	Lys	Met	Gly	Asn	Phe	Pro	Trp	Gln	Val	Phe	465	470	475
Thr	Asn	Ile	His	Gly	Arg	Gly	Gly	Gly	Ala	Leu	Leu	Gly	Asp	Arg	Trp	485	490	495

Ile Leu Thr Ala Ala His Thr Leu Tyr Pro Lys Glu His Glu Ala Gln  
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Ser Asn Ala Ser Leu Asp Val Phe Leu Gly His Thr Asn Val Glu Glu  
515 520 525

Leu Met Lys Leu Gly Asn His Pro Ile Arg Arg Val Ser Val His Pro  
530 535 540

Asp Tyr Arg Gln Asp Glu Ser Tyr Asn Phe Glu Gly Asp Ile Ala Leu  
545 550 555 560

Leu Glu Leu Glu Asn Ser Val Thr Leu Gly Pro Asn Leu Leu Pro Ile  
565 570 575

Cys Leu Pro Asp Asn Asp Thr Phe Tyr Asp Leu Gly Leu Met Gly Tyr  
580 585 590

Val Ser Gly Phe Gly Val Met Glu Glu Lys Ile Ala His Asp Leu Arg  
595 600 605

Phe Val Arg Leu Pro Val Ala Asn Pro Gln Ala Cys Glu Asn Trp Leu  
610 615 620

Arg Gly Lys Asn Arg Met Asp Val Phe Ser Gln Asn Met Phe Cys Ala  
625 630 635 640

Gly His Pro Ser Leu Lys Gln Asp Ala Cys Gln Gly Asp Ser Gly Gly  
645 650 655

Val Phe Ala Val Arg Asp Pro Asn Thr Asp Arg Trp Val Ala Thr Gly  
660 665 670

Ile Val Ser Trp Gly Ile Gly Cys Ser Arg Gly Tyr Gly Phe Tyr Thr  
675 680 685

Lys Val Leu Asn Tyr Val Asp Trp Ile Lys Lys Glu Met Glu Glu Glu  
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Asp  
705

<210> 82  
<211> 1746  
<212> DNA  
<213> *Macaca fascicularis*

<400> 82

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<210> 83

<211> 1047

<212> DNA

<213> Mus musculus

<400> 83

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<210> 84

<211> 267

<212> PRT

<213> *Macaca fascicularis*

<400> 84

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Ser Leu Pro Leu Ser Leu Ala Pro Leu Trp Phe Ser Ala Thr Ser Pro
          20             25             30

```

```

Glu Glu Leu Asn Val Val Leu Gly Thr Asn Asp Leu Thr Ser Ser Ser
      35             40             45

```

```

Met Glu Ile Lys Glu Val Ala Ser Ile Ile Leu His Lys Asp Phe Lys
      50             55             60

```

```

Arg Ala Asn Met Asp Asn Asp Ile Ala Leu Leu Leu Leu Ala Ser Pro
      65             70             75             80

```

```

Ile Thr Leu Asp Asp Leu Lys Val Pro Ile Cys Leu Pro Thr Gln His
          85             90             95

```

```

Gly Pro Ala Thr Trp His Glu Cys Trp Val Ala Gly Trp Gly Gln Thr
      100             105             110

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```

Asn Ala Ala Asp Lys Asn Ser Val Lys Thr Asp Leu Met Lys Ala Pro
      115             120             125

```

```

Met Val Ile Met Asp Trp Glu Glu Cys Ser Lys Ala Phe Pro Lys Leu
      130             135             140

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Thr Lys Asn Met Leu Cys Ala Gly Tyr Asn Asn Glu Ser Tyr Asp Ala
      145             150             155             160

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Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Thr Pro Glu Pro Gly  
165 170 175

Glu Lys Trp Tyr Gln Val Gly Ile Ile Ser Trp Gly Lys Ser Cys Gly  
180 185 190

Glu Lys Asn Thr Pro Gly Ile Tyr Thr Ser Leu Val Asn Tyr Asn Leu  
195 200 205

Trp Ile Glu Lys Val Thr Gln Leu Glu Gly Arg Pro Phe Ser Ala Glu  
210 215 220

Lys Met Arg Thr Ser Val Lys Gln Lys Pro Met Gly Ser Arg Val Ser  
225 230 235 240

Gly Val Pro Glu Pro Gly Gly Leu Arg Ser Trp Leu Leu Leu Cys Pro  
245 250 255

Leu Ser His Val Leu Phe Arg Ala Ile Leu Tyr  
260 265

<210> 85  
<211> 638  
<212> PRT  
<213> Homo sapiens

<400> 85  
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Val Ser Cys Gly Cys Leu Thr Gln Leu Tyr Glu Asn Ala Phe Phe Arg  
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Gly Gly Asp Val Ala Ser Met Tyr Thr Pro Asn Ala Gln Tyr Cys Gln  
35 40 45

Met Arg Cys Thr Phe His Pro Arg Cys Leu Leu Phe Ser Phe Leu Pro  
50 55 60

Ala Ser Ser Ile Asn Asp Met Glu Lys Arg Phe Gly Cys Phe Leu Lys  
65 70 75 80

Asp Ser Val Thr Gly Thr Leu Pro Lys Val His Arg Thr Gly Ala Val  
85 90 95

Ser Gly His Ser Leu Lys Gln Cys Gly His Gln Ile Ser Ala Cys His  
100 105 110



Arg	Asp	Ile	Tyr	Lys	Gly	Val	Asp	Met	Arg	Gly	Val	Asn	Phe	Asn	Val
	115						120					125			
Ser	Lys	Val	Ser	Ser	Val	Glu	Glu	Cys	Gln	Lys	Arg	Cys	Thr	Asn	Asn
	130					135					140				
Ile	Arg	Cys	Gln	Phe	Phe	Ser	Tyr	Ala	Thr	Gln	Thr	Phe	His	Lys	Ala
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Glu	Tyr	Arg	Asn	Asn	Cys	Leu	Leu	Lys	Tyr	Ser	Pro	Gly	Gly	Thr	Pro
			165						170					175	
Thr	Ala	Ile	Lys	Val	Leu	Ser	Asn	Val	Glu	Ser	Gly	Phe	Ser	Leu	Lys
		180						185					190		
Pro	Cys	Ala	Leu	Ser	Glu	Ile	Gly	Cys	His	Met	Asn	Ile	Phe	Gln	His
	195						200					205			
Leu	Ala	Phe	Ser	Asp	Val	Asp	Val	Ala	Arg	Val	Leu	Thr	Pro	Asp	Ala
	210					215					220				
Phe	Val	Cys	Arg	Thr	Ile	Cys	Thr	Tyr	His	Pro	Asn	Cys	Leu	Phe	Phe
225					230					235					240
Thr	Phe	Tyr	Thr	Asn	Val	Trp	Lys	Ile	Glu	Ser	Gln	Arg	Asn	Val	Cys
			245						250					255	
Leu	Leu	Lys	Thr	Ser	Glu	Ser	Gly	Thr	Pro	Ser	Ser	Ser	Thr	Pro	Gln
		260						265					270		
Glu	Asn	Thr	Ile	Ser	Gly	Tyr	Ser	Leu	Leu	Thr	Cys	Lys	Arg	Thr	Leu
	275						280					285			
Pro	Glu	Pro	Cys	His	Ser	Lys	Ile	Tyr	Pro	Gly	Val	Asp	Phe	Gly	Gly
	290					295					300				
Glu	Glu	Leu	Asn	Val	Thr	Phe	Val	Lys	Gly	Val	Asn	Val	Cys	Gln	Glu
305					310					315					320
Thr	Cys	Thr	Lys	Met	Ile	Arg	Cys	Gln	Phe	Phe	Thr	Tyr	Ser	Leu	Leu
			325						330					335	
Pro	Glu	Asp	Cys	Lys	Glu	Glu	Lys	Cys	Lys	Cys	Phe	Leu	Arg	Leu	Ser
		340						345				350			
Met	Asp	Gly	Ser	Pro	Thr	Arg	Ile	Ala	Tyr	Gly	Thr	Gln	Gly	Ser	Ser
	355						360					365			

Gly	Tyr	Ser	Leu	Arg	Leu	Cys	Asn	Thr	Gly	Asp	Asn	Ser	Val	Cys	Thr	370	375	380	
Thr	Lys	Thr	Ser	Thr	Arg	Ile	Val	Gly	Gly	Thr	Asn	Ser	Ser	Trp	Gly	385	390	395	400
Glu	Trp	Pro	Trp	Gln	Val	Ser	Leu	Gln	Val	Lys	Leu	Thr	Ala	Gln	Arg	405	410	415	
His	Leu	Cys	Gly	Gly	Ser	Leu	Ile	Gly	His	Gln	Trp	Val	Leu	Thr	Ala	420	425	430	
Ala	His	Cys	Phe	Asp	Gly	Leu	Pro	Leu	Gln	Asp	Val	Trp	Arg	Ile	Tyr	435	440	445	
Ser	Gly	Ile	Leu	Asn	Leu	Ser	Asp	Ile	Thr	Lys	Asp	Thr	Pro	Phe	Ser	450	455	460	
Gln	Ile	Lys	Glu	Ile	Ile	Ile	His	Gln	Asn	Tyr	Lys	Val	Ser	Glu	Gly	465	470	475	480
Asn	His	Asp	Ile	Ala	Leu	Ile	Lys	Leu	Gln	Ala	Pro	Leu	Asn	Tyr	Thr	485	490	495	
Glu	Phe	Gln	Lys	Pro	Ile	Cys	Leu	Pro	Ser	Lys	Gly	Asp	Thr	Ser	Thr	500	505	510	
Ile	Tyr	Thr	Asn	Cys	Trp	Val	Thr	Gly	Trp	Gly	Phe	Ser	Lys	Glu	Lys	515	520	525	
Gly	Glu	Ile	Gln	Asn	Ile	Leu	Gln	Lys	Val	Asn	Ile	Pro	Leu	Val	Thr	530	535	540	
Asn	Glu	Glu	Cys	Gln	Lys	Arg	Tyr	Gln	Asp	Tyr	Lys	Ile	Thr	Gln	Arg	545	550	555	560
Met	Val	Cys	Ala	Gly	Tyr	Lys	Glu	Gly	Gly	Lys	Asp	Ala	Cys	Lys	Gly	565	570	575	
Asp	Ser	Gly	Gly	Pro	Leu	Val	Cys	Lys	His	Asn	Gly	Met	Trp	Arg	Leu	580	585	590	
Val	Gly	Ile	Thr	Ser	Trp	Gly	Glu	Gly	Cys	Ala	Arg	Arg	Glu	Gln	Pro	595	600	605	
Gly	Val	Tyr	Thr	Lys	Val	Ala	Glu	Tyr	Met	Asp	Trp	Ile	Leu	Glu	Lys	610	615	620	

Thr Gln Ser Ser Asp Gly Lys Ala Gln Met Gln Ser Pro Ala  
625 630 635

<210> 86  
<211> 643  
<212> PRT  
<213> Sus scrofa

<400> 86  
Met Glu Val Ile Val Leu Phe Arg Ile Ile Ser Phe Arg Gln Ala Val  
1 5 10 15

Tyr Phe Met Cys Leu Phe Ala Ala Val Ser Cys Gly Cys Leu Pro Gln  
20 25 30

Leu His Lys Asn Thr Phe Phe Arg Gly Gly Asp Val Ser Ala Met Tyr  
35 40 45

Thr Pro Ser Ala Arg His Cys Gln Met Met Cys Thr Phe His Pro Arg  
50 55 60

Cys Leu Leu Phe Ser Phe Leu Pro Ala Asp Ser Thr Ser Val Thr Asp  
65 70 75 80

Lys Arg Phe Gly Cys Phe Leu Lys Asp Ser Val Thr Gly Met Leu Pro  
85 90 95

Arg Val Leu Arg Glu Asn Ala Ile Ser Gly His Ser Leu Lys Gln Cys  
100 105 110

Gly His Gln Ile Arg Ala Cys His Arg Asp Ile Tyr Lys Gly Ile Asp  
115 120 125

Met Arg Gly Val Asn Phe Asn Val Ser Lys Val Lys Thr Val Glu Glu  
130 135 140

Cys Gln Glu Arg Cys Thr Asn Ser Ile His Cys Leu Phe Phe Thr Tyr  
145 150 155 160

Ala Thr Gln Ala Phe Asn Asn Ala Glu Tyr Arg Asn Asn Cys Leu Leu  
165 170 175

Lys His Ser Pro Gly Gly Thr Pro Thr Ser Ile Lys Val Leu Ala Asn  
180 185 190

Val Glu Ser Gly Phe Ser Leu Lys Pro Cys Ala Asp Ser Glu Ile Gly

195	200	205
Cys His Met Asp Ile Phe Gln His Leu Ala Phe Ser Asp Val Asp Val		
210	215	220
Ala Arg Val Ile Ala Pro Asp Ala Phe Val Cys Arg Thr Ile Cys Thr		
225	230	235 240
Tyr His Pro Asn Cys Leu Phe Phe Thr Phe Tyr Thr Asn Ala Trp Lys		
245	250	255
Ile Glu Ser Gln Arg Asn Val Cys Phe Leu Lys Thr Ser His Ser Gly		
260	265	270
Thr Pro Ser Phe Pro Thr Pro Gln Glu Asn Ala Ile Ser Gly Tyr Ser		
275	280	285
Leu Leu Thr Cys Lys Gln Thr Leu Pro Glu Pro Cys His Ser Lys Ile		
290	295	300
Tyr Ser Glu Val Asp Phe Glu Gly Glu Glu Leu Asn Val Thr Phe Val		
305	310	315 320
Gln Gly Ala Asn Leu Cys Gln Glu Thr Cys Thr Lys Thr Ile Arg Cys		
325	330	335
Gln Phe Phe Thr Tyr Ser Leu His Pro Glu Asp Cys Arg Gly Glu Lys		
340	345	350
Cys Lys Cys Ser Leu Arg Leu Ser Ser Asp Gly Ser Pro Thr Lys Ile		
355	360	365
Thr His Gly Met Arg Ala Ser Ser Gly Tyr Ser Leu Arg Leu Cys Arg		
370	375	380
Ser Gly Asp His Ser Ala Cys Ala Thr Lys Ala Asn Thr Arg Ile Val		
385	390	395 400
Gly Gly Thr Asp Ser Phe Leu Gly Glu Trp Pro Trp Gln Val Ser Leu		
405	410	415
Gln Ala Lys Leu Arg Ala Gln Asn His Leu Cys Gly Gly Ser Ile Ile		
420	425	430
Gly His Gln Trp Val Leu Thr Ala Ala His Cys Phe Asp Gly Leu Ser		
435	440	445
Leu Pro Asp Ile Trp Arg Ile Tyr Gly Gly Ile Leu Asn Ile Ser Glu		

450	455	460	
Ile Thr Lys Glu Thr Pro Phe Ser Gln Val Lys Glu Ile Ile Ile His			
465	470	475	480
Gln Asn Tyr Lys Ile Leu Glu Ser Gly His Asp Ile Ala Leu Leu Lys			
	485	490	495
Leu Glu Thr Pro Leu Asn Tyr Thr Asp Phe Gln Lys Pro Ile Cys Leu			
	500	505	510
Pro Ser Arg Asp Asp Thr Asn Val Val Tyr Thr Asn Cys Trp Val Thr			
	515	520	525
Gly Trp Gly Phe Thr Glu Glu Lys Gly Glu Ile Gln Asn Ile Leu Gln			
530	535	540	
Lys Val Asn Ile Pro Leu Val Ser Asn Glu Glu Cys Gln Lys Ser Tyr			
545	550	555	560
Arg Asp His Lys Ile Ser Lys Gln Met Ile Cys Ala Gly Tyr Lys Glu			
	565	570	575
Gly Gly Lys Asp Ala Cys Lys Gly Glu Ser Gly Gly Pro Leu Val Cys			
	580	585	590
Lys Tyr Asn Gly Ile Trp His Leu Val Gly Thr Thr Ser Trp Gly Glu			
595	600	605	
Gly Cys Ala Arg Arg Glu Gln Pro Gly Val Tyr Thr Lys Val Ile Glu			
610	615	620	
Tyr Met Asp Trp Ile Leu Glu Lys Thr Gln Asp Asp Asp Gly Gln Ser			
625	630	635	640

Trp Met Lys

<210> 87  
 <211> 625  
 <212> PRT  
 <213> Homo sapiens

<400> 87  
 Met Ile Phe Leu Tyr Gln Val Val His Phe Ile Leu Phe Thr Ser Val  
 1 5 10 15

Ser Gly Glu Cys Val Thr Gln Leu Leu Lys Asp Thr Cys Phe Glu Gly  
 20 25 30  
 Gly Asp Ile Thr Thr Val Phe Thr Pro Ser Ala Lys Tyr Cys Gln Val  
 35 40 45  
 Val Cys Thr Tyr His Pro Arg Cys Leu Leu Phe Thr Phe Thr Ala Glu  
 50 55 60  
 Ser Pro Ser Glu Asp Pro Thr Arg Trp Phe Thr Cys Val Leu Lys Asp  
 65 70 75 80  
 Ser Val Thr Glu Thr Leu Pro Arg Val Asn Arg Thr Ala Ala Ile Ser  
 85 90 95  
 Gly Tyr Ser Phe Lys Gln Cys Ser His Gln Ile Ser Ala Cys Asn Lys  
 100 105 110  
 Asp Ile Tyr Val Asp Leu Asp Met Lys Gly Ile Asn Tyr Asn Ser Ser  
 115 120 125  
 Val Ala Lys Ser Ala Gln Glu Cys Gln Glu Arg Cys Thr Asp Asp Val  
 130 135 140  
 His Cys His Phe Phe Thr Tyr Ala Thr Arg Gln Phe Pro Ser Leu Glu  
 145 150 155 160  
 His Arg Asn Ile Cys Leu Leu Lys His Thr Gln Thr Gly Thr Pro Thr  
 165 170 175  
 Arg Ile Thr Lys Leu Asp Lys Val Val Ser Gly Phe Ser Leu Lys Ser  
 180 185 190  
 Cys Ala Leu Ser Asn Leu Ala Cys Ile Arg Asp Ile Phe Pro Asn Thr  
 195 200 205  
 Val Phe Ala Asp Ser Asn Ile Asp Ser Val Met Ala Pro Asp Ala Phe  
 210 215 220  
 Val Cys Gly Arg Ile Cys Thr His His Pro Gly Cys Leu Phe Phe Thr  
 225 230 235 240  
 Phe Phe Ser Gln Glu Trp Pro Lys Glu Ser Gln Arg Asn Leu Cys Leu  
 245 250 255  
 Leu Lys Thr Ser Glu Ser Gly Leu Pro Ser Thr Arg Ile Lys Lys Ser  
 260 265 270

Lys Ala Leu Ser Gly Phe Ser Leu Gln Ser Cys Arg His Ser Ile Pro  
 275 280 285

Val Phe Cys His Ser Ser Phe Tyr His Asp Thr Asp Phe Leu Gly Glu  
 290 295 300

Glu Leu Asp Ile Val Ala Ala Lys Ser His Glu Ala Cys Gln Lys Leu  
 305 310 315 320

Cys Thr Asn Ala Val Arg Cys Gln Phe Phe Thr Tyr Thr Pro Ala Gln  
 325 330 335

Ala Ser Cys Asn Glu Gly Lys Gly Lys Cys Tyr Leu Lys Leu Ser Ser  
 340 345 350

Asn Gly Ser Pro Thr Lys Ile Leu His Gly Arg Gly Gly Ile Ser Gly  
 355 360 365

Tyr Thr Leu Arg Leu Cys Lys Met Asp Asn Glu Cys Thr Thr Lys Ile  
 370 375 380

Lys Pro Arg Ile Val Gly Gly Thr Ala Ser Val Arg Gly Glu Trp Pro  
 385 390 395 400

Trp Gln Val Thr Leu His Thr Thr Ser Pro Thr Gln Arg His Leu Cys  
 405 410 415

Gly Gly Ser Ile Ile Gly Asn Gln Trp Ile Leu Thr Ala Ala His Cys  
 420 425 430

Phe Tyr Gly Val Glu Ser Pro Lys Ile Leu Arg Val Tyr Ser Gly Ile  
 435 440 445

Leu Asn Gln Ser Glu Ile Lys Glu Asp Thr Ser Phe Phe Gly Val Gln  
 450 455 460

Glu Ile Ile Ile His Asp Gln Tyr Lys Met Ala Glu Ser Gly Tyr Asp  
 465 470 475 480

Ile Ala Leu Leu Lys Leu Glu Thr Thr Val Asn Tyr Thr Asp Ser Gln  
 485 490 495

Arg Pro Ile Cys Leu Pro Ser Lys Gly Asp Arg Asn Val Ile Tyr Thr  
 500 505 510

Asp Cys Trp Val Thr Gly Trp Gly Tyr Arg Lys Leu Arg Asp Lys Ile  
 515 520 525

Gln Asn Thr Leu Gln Lys Ala Lys Ile Pro Leu Val Thr Asn Glu Glu  
 530 535 540

Cys Gln Lys Arg Tyr Arg Gly His Lys Ile Thr His Lys Met Ile Cys  
 545 550 555 560

Ala Gly Tyr Arg Glu Gly Gly Lys Asp Ala Cys Lys Gly Asp Ser Gly  
 565 570 575

Gly Pro Leu Ser Cys Lys His Asn Glu Val Trp His Leu Val Gly Ile  
 580 585 590

Thr Ser Trp Gly Glu Gly Cys Ala Gln Arg Glu Arg Pro Gly Val Tyr  
 595 600 605

Thr Asn Val Val Glu Tyr Val Asp Trp Ile Leu Glu Lys Thr Gln Ala  
 610 615 620

Val  
 625

<210> 88  
 <211> 257  
 <212> PRT  
 <213> Homo sapiens

<400> 88  
 Met Ile Ala Ile Ser Ala Val Ser Ser Ala Leu Leu Phe Ser Leu Leu  
 1 5 10 15

Cys Glu Ala Ser Thr Val Val Leu Leu Asn Ser Thr Asp Ser Ser Pro  
 20 25 30

Pro Thr Asn Asn Phe Thr Asp Ile Glu Ala Ala Leu Lys Ala Gln Leu  
 35 40 45

Asp Ser Ala Asp Ile Pro Lys Ala Arg Arg Lys Arg Tyr Ile Ser Gln  
 50 55 60

Asn Asp Met Ile Ala Ile Leu Asp Tyr His Asn Gln Val Arg Gly Lys  
 65 70 75 80

Val Phe Pro Pro Ala Ala Asn Met Glu Tyr Met Val Trp Asp Glu Asn  
 85 90 95

Leu Ala Lys Ser Ala Glu Ala Trp Ala Ala Thr Cys Ile Trp Asp His  
 100 105 110



Gly Pro Ser Tyr Leu Leu Arg Phe Leu Gly Gln Asn Leu Ser Val Arg  
115 120 125

Thr Gly Arg Tyr Arg Ser Ile Leu Gln Leu Val Lys Pro Trp Tyr Asp  
130 135 140

Glu Val Lys Asp Tyr Ala Phe Pro Tyr Pro Gln Asp Cys Asn Pro Arg  
145 150 155 160

Cys Pro Met Arg Cys Phe Gly Pro Met Cys Thr His Tyr Thr Gln Met  
165 170 175

Val Trp Ala Thr Ser Asn Arg Ile Gly Cys Ala Ile His Thr Cys Gln  
180 185 190

Asn Met Asn Val Trp Gly Ser Val Trp Arg Arg Ala Val Tyr Leu Val  
195 200 205

Cys Asn Tyr Ala Pro Lys Gly Asn Trp Ile Gly Glu Ala Pro Tyr Lys  
210 215 220

Val Gly Val Pro Cys Ser Ser Cys Pro Pro Ser Tyr Gly Gly Ser Cys  
225 230 235 240

Thr Asp Asn Leu Cys Phe Pro Gly Val Thr Ser Asn Tyr Leu Tyr Trp  
245 250 255

Phe

<210> 89

<211> 415

<212> PRT

<213> *Halocynthia roretzi*

<400> 89

Met Leu Ile Val Gln Ile Asn Met Lys Leu Ser Val Phe Phe Leu Ala  
1 5 10 15

Leu Leu Pro Leu Val Ala Arg Thr Ser Phe Ala Ser Asn Pro Asn Val  
20 25 30

Leu Ser Ala Glu Glu Asn Trp Ser Asn Leu Val Gly Thr Glu Glu Ile  
35 40 45

Glu Asn Val Asn Ser Glu Asn Glu Phe Ser Leu Ala Thr Glu Glu Glu

50		55		60
Arg Ser Asn Phe Glu Glu Asn Asn Val Ile Leu Ser Glu Glu Lys Val				
65		70		75 80
Val Glu Glu Ile Thr Ala Arg Trp Asp Ile Gly Leu Asp Pro Asp Ala				
	85		90	95
Asn Glu Thr Phe Ser Val Lys Lys Ala Val Lys Ala Val Lys Ile Ile				
	100		105	110
Pro Gly Lys Ile Met Asp Lys Ile Val Leu Lys Lys Pro Phe Arg Met				
	115		120	125
Ala Leu Leu Arg Thr His Asn Ala Arg Arg Ala Ile Ala Gln Pro Lys				
	130		135	140
Ala Ala Asn Met Arg Arg Met Thr Trp Asp Met Glu Leu Glu Arg Leu				
145		150		155 160
Ala Val Ala Tyr Ser Arg Lys Cys Ile Tyr Glu His Asn Pro Arg Thr				
	165		170	175
Lys His Ser Arg Phe Glu Tyr Val Gly Glu Asn Leu Phe Ile Ser Thr				
	180		185	190
Gly Tyr Ala Phe Thr Pro Ser Leu Met Lys His Ala Val Glu Ala Trp				
	195		200	205
Asp Asp Glu Lys Gln Tyr Tyr Asp Tyr Glu Thr Lys Lys Cys Gln Arg				
	210		215	220
Gly Lys Met Cys Gly His Tyr Thr Gln Val Val Trp Ala Asp Thr Phe				
225		230		235 240
Lys Met Gly Cys Gly Val Thr Arg Cys Ser Asp Ile Asp Val Arg Gly				
	245		250	255
Arg Arg Trp Lys Asn Ala Ile Leu Leu Val Cys Asn Tyr Gly Pro Gly				
	260		265	270
Gly Asn Tyr Pro Thr His Pro Phe Val Thr Ala Pro Ser Cys Ser Lys				
	275		280	285
Cys Ala Pro Thr Asp Ile Cys Arg Arg Asn Leu Cys Asn Asn Val Ile				
	290		295	300
Arg Asp Arg Leu Lys Leu Asp Arg Lys Asp Ile Lys Trp Ser Glu Trp				

305		310		315		320
Thr Thr Trp Ser Ser Cys Ser Lys Ser Cys Gly Val Gly Ser Thr Arg						
	325		330		335	
Arg Glu Arg Gln Cys Asn Thr Phe Val Pro Gly Asp Cys Lys Asp Phe						
	340		345		350	
Pro Ser Glu Val Lys Phe Cys Val Lys Lys Pro Cys Lys Ala Ala Met						
	355		360		365	
Phe Gly Asn Gly Gly Ser Phe Ser Tyr Asn Ile Val Met Asn Gln Gly						
	370		375		380	
Asp Lys Leu Leu Lys Gly Ser Leu Gln Gln Ala Leu Gln Lys His Leu						
385		390		395		400
Ser Gly Phe Ser Phe Gly Asn Phe Val Lys Arg Arg Gly Arg Lys						
	405		410		415	
<210> 90						
<211> 266						
<212> PRT						
<213> Homo sapiens						
<400> 90						
Met Arg Val Thr Leu Ala Thr Ile Ala Trp Met Val Ser Phe Val Ser						
1		5		10		15
Asn Tyr Ser His Thr Ala Asn Ile Leu Pro Asp Ile Glu Asn Glu Asp						
	20		25		30	
Phe Ile Lys Asp Cys Val Arg Ile His Asn Lys Phe Arg Ser Glu Val						
	35		40		45	
Lys Pro Thr Ala Ser Asp Met Leu Tyr Met Thr Trp Asp Pro Ala Leu						
	50		55		60	
Ala Gln Ile Ala Lys Ala Trp Ala Ser Asn Cys Gln Phe Ser His Asn						
65		70		75		80
Thr Arg Leu Lys Pro Pro His Lys Leu His Pro Asn Phe Thr Ser Leu						
	85		90		95	
Gly Glu Asn Ile Trp Thr Gly Ser Val Pro Ile Phe Ser Val Ser Ser						
	100		105		110	

Ala Ile Thr Asn Trp Tyr Asp Glu Ile Gln Asp Tyr Asp Phe Lys Thr  
115 120 125

Arg Ile Cys Lys Lys Val Cys Gly His Tyr Thr Gln Val Val Trp Ala  
130 135 140

Asp Ser Tyr Lys Val Gly Cys Ala Val Gln Phe Cys Pro Lys Val Ser  
145 150 155 160

Gly Phe Asp Ala Leu Ser Asn Gly Ala His Phe Ile Cys Asn Tyr Gly  
165 170 175

Pro Gly Gly Asn Tyr Pro Thr Trp Pro Tyr Lys Arg Gly Ala Thr Cys  
180 185 190

Ser Ala Cys Pro Asn Asn Asp Lys Cys Leu Asp Asn Leu Cys Val Asn  
195 200 205

Arg Gln Arg Asp Gln Val Lys Arg Tyr Tyr Ser Val Val Tyr Pro Gly  
210 215 220

Trp Pro Ile Tyr Pro Arg Asn Arg Tyr Thr Ser Leu Phe Leu Ile Val  
225 230 235 240

Asn Ser Val Ile Leu Ile Leu Ser Val Ile Ile Thr Ile Leu Val Gln  
245 250 255

Leu Lys Tyr Pro Asn Leu Val Leu Leu Asp  
260 265

<210> 91  
<211> 219  
<212> PRT  
<213> Homo sapiens

<400> 91  
Met Val Ser Phe Val Ser Asn Tyr Ser His Thr Ala Asn Ile Leu Pro  
1 5 10 15

Asp Ile Glu Asn Glu Asp Phe Ile Lys Asp Cys Val Arg Ile His Asn  
20 25 30

Lys Phe Arg Ser Glu Val Lys Pro Thr Ala Ser Asp Met Leu Tyr Met  
35 40 45

Thr Trp Asp Pro Ala Leu Ala Gln Ile Ala Lys Ala Trp Ala Ser Asn  
50 55 60

Cys Gln Phe Ser His Asn Thr Arg Leu Lys Pro Pro His Lys Leu His  
65 70 75 80

Pro Asn Phe Thr Ser Leu Gly Glu Asn Ile Trp Thr Gly Ser Val Pro  
85 90 95

Ile Phe Ser Val Ser Ser Ala Ile Thr Asn Trp Tyr Asp Glu Ile Gln  
100 105 110

Asp Tyr Asn Phe Lys Thr Arg Ile Cys Lys Lys Val Cys Gly His Tyr  
115 120 125

Thr Gln Val Val Trp Ala Asp Ser Tyr Lys Val Gly Cys Ala Val Gln  
130 135 140

Phe Cys Pro Lys Val Ser Gly Phe Asp Ala Leu Ser Asn Gly Ala His  
145 150 155 160

Phe Ile Cys Asn Tyr Gly Pro Gly Gly Asn Tyr Pro Thr Trp Pro Tyr  
165 170 175

Lys Arg Gly Ala Thr Cys Ser Ala Cys Pro Asn Asn Asp Lys Cys Leu  
180 185 190

Asp Asn Leu Cys Val Asn Asp Ser Glu Thr Lys Ser Asn Val Thr Thr  
195 200 205

Met Leu Tyr Ile Arg Leu Ala His Ile Ser Thr  
210 215

<210> 92

<211> 245

<212> PRT

<213> Equus caballus

<400> 92

Met Ala Leu Leu Pro Val Leu Leu Phe Leu Ala Ala Val Leu Leu Pro  
1 5 10 15

Phe Phe Pro Ala Ser Gly Gln Asp Pro Gly Phe Ala Ala Leu Ser Ile  
20 25 30

Thr Lys Ser Glu Val Gln Lys Glu Ile Val Asn Lys His Asn Asp Leu  
35 40 45

Arg Arg Thr Val Ser Pro Leu Ala Ser Asn Met Leu Lys Met Gln Trp

50	55	60
Asp Ser Lys Thr Ala Thr Asn Ala Gln Asn Trp Ala Asn Lys Cys Leu		
65	70	75 80
Leu Gln His Ser Lys Ala Glu Asp Arg Ala Val Gly Thr Met Lys Cys		
	85	90 95
Gly Glu Asn Leu Phe Met Ser Ser Ile Pro Asn Ser Trp Ser Asp Ala		
	100	105 110
Ile Gln Asn Trp His Asp Glu Val His Asp Phe Lys Tyr Gly Val Gly		
	115	120 125
Pro Lys Thr Pro Asn Ala Val Val Gly His Tyr Thr Gln Val Val Trp		
	130	135 140
Tyr Ser Ser Tyr Arg Val Gly Cys Gly Ile Ala Tyr Cys Pro Lys Gln		
	145	150 155 160
Gly Thr Leu Lys Tyr Tyr Tyr Val Cys Gln Tyr Cys Pro Ala Gly Asn		
	165	170 175
Tyr Val Asn Lys Ile Asn Thr Pro Tyr Glu Gln Gly Thr Pro Cys Ala		
	180	185 190
Arg Cys Pro Gly Asn Cys Asp Asn Gly Leu Cys Thr Asn Ser Cys Glu		
	195	200 205
Tyr Glu Asp Leu Val Ser Asn Cys Asp Ser Leu Lys Lys Ile Ala Gly		
	210	215 220
Cys Glu His Glu Leu Leu Lys Glu Asn Cys Lys Thr Thr Cys Gln Cys		
	225	230 235 240
Glu Asn Lys Ile Tyr		
	245	

<210> 93

<211> 2664

<212> DNA

<213> Homo sapiens

<400> 93

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gcgggagtgg ctcagagtaa ccacagtgtc gttcatggct agagcaattc cagccatggt 180
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<210> 94
<211> 500
<212> PRT
<213> Homo sapiens

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<400> 94

Met Lys Cys Thr Ala Arg Glu Trp Leu Arg Val Thr Thr Val Leu Phe  
1 5 10 15

Met Ala Arg Ala Ile Pro Ala Met Val Val Pro Asn Ala Thr Leu Leu  
20 25 30

Glu Lys Leu Leu Glu Lys Tyr Met Asp Glu Asp Gly Glu Trp Trp Ile  
35 40 45

Ala Lys Gln Arg Gly Lys Arg Ala Ile Thr Asp Asn Asp Met Gln Ser  
50 55 60

Ile Leu Asp Leu His Asn Lys Leu Arg Ser Gln Val Tyr Pro Thr Ala  
65 70 75 80

Ser Asn Met Glu Tyr Met Thr Trp Asp Val Glu Leu Glu Arg Ser Ala  
85 90 95

Glu Ser Trp Ala Glu Ser Cys Leu Trp Glu His Gly Pro Ala Ser Leu  
100 105 110

Leu Pro Ser Ile Gly Gln Asn Leu Gly Ala His Trp Gly Arg Tyr Arg  
115 120 125

Pro Pro Thr Phe His Val Gln Ser Trp Tyr Asp Glu Val Lys Asp Phe  
130 135 140

Ser Tyr Pro Tyr Glu His Glu Cys Asn Pro Tyr Cys Pro Phe Arg Cys  
145 150 155 160

Ser Gly Pro Val Cys Thr His Tyr Thr Gln Val Val Trp Ala Thr Ser  
165 170 175

Asn Arg Ile Gly Cys Ala Ile Asn Leu Cys His Asn Met Asn Ile Trp  
180 185 190

Gly Gln Ile Trp Pro Lys Ala Val Tyr Leu Val Cys Asn Tyr Ser Pro  
195 200 205

Lys Gly Asn Trp Trp Gly His Ala Pro Tyr Lys His Gly Arg Pro Cys  
210 215 220

Ser Ala Cys Pro Pro Ser Phe Gly Gly Gly Cys Arg Glu Asn Leu Cys  
225 230 235 240

Tyr Lys Glu Gly Ser Asp Arg Tyr Tyr Pro Pro Arg Glu Glu Glu Thr



245	250	255
Asn Glu Ile Glu Arg Gln Gln Ser Gln Val His Asp Thr His Val Arg		
260	265	270
Thr Arg Ser Asp Asp Ser Ser Arg Asn Glu Val Ile Ser Ala Gln Gln		
275	280	285
Met Ser Gln Ile Val Ser Cys Glu Val Arg Leu Arg Asp Gln Cys Lys		
290	295	300
Gly Thr Thr Cys Asn Arg Tyr Glu Cys Pro Ala Gly Cys Leu Asp Ser		
305	310	315
Lys Ala Lys Val Ile Gly Ser Val His Tyr Glu Met Gln Ser Ser Ile		
325	330	335
Cys Arg Ala Ala Ile His Tyr Gly Ile Ile Asp Asn Asp Gly Gly Trp		
340	345	350
Val Asp Ile Thr Arg Gln Gly Arg Lys His Tyr Phe Ile Lys Ser Asn		
355	360	365
Arg Asn Gly Ile Gln Thr Ile Gly Lys Tyr Gln Ser Ala Asn Ser Phe		
370	375	380
Thr Val Ser Lys Val Thr Val Gln Ala Val Thr Cys Glu Thr Thr Val		
385	390	395
Glu Gln Leu Cys Pro Phe His Lys Pro Ala Ser His Cys Pro Arg Val		
405	410	415
Tyr Cys Pro Arg Asn Cys Met Gln Ala Asn Pro His Tyr Ala Arg Val		
420	425	430
Ile Gly Thr Arg Val Tyr Ser Asp Leu Ser Ser Ile Cys Arg Ala Ala		
435	440	445
Val His Ala Gly Val Val Arg Asn His Gly Gly Tyr Val Asp Val Met		
450	455	460
Pro Val Asp Lys Arg Lys Thr Tyr Ile Ala Ser Phe Gln Asn Gly Ile		
465	470	475
Phe Ser Glu Ser Leu Gln Asn Pro Pro Gly Gly Lys Ala Phe Arg Val		
485	490	495
Phe Ala Val Val		

500

<210> 95  
<211> 188  
<212> PRT  
<213> Rattus norvegicus

<400> 95  
Met Leu His Asn Lys Leu Arg Gly Gln Val Tyr Pro Pro Ala Ser Asn  
1 5 10 15  
Met Glu Tyr Met Thr Trp Asp Glu Glu Leu Glu Arg Ser Ala Ala Ala  
20 25 30  
Trp Ala Gln Arg Cys Leu Trp Glu His Gly Pro Ala Ser Leu Leu Val  
35 40 45  
Ser Ile Gly Gln Asn Leu Ala Val His Trp Gly Arg Tyr Arg Ser Pro  
50 55 60  
Gly Phe His Val Gln Ser Trp Tyr Asp Glu Val Lys Asp Tyr Thr Tyr  
65 70 75 80  
Pro Tyr Pro His Glu Cys Asn Pro Trp Cys Pro Glu Arg Cys Ser Gly  
85 90 95  
Ala Met Cys Thr His Tyr Thr Gln Met Val Trp Ala Thr Thr Asn Lys  
100 105 110  
Ile Gly Cys Ala Val His Thr Cys Arg Ser Met Ser Val Trp Gly Asp  
115 120 125  
Ile Trp Glu Asn Ala Val Tyr Leu Val Cys Asn Tyr Ser Pro Lys Gly  
130 135 140  
Asn Trp Ile Gly Glu Ala Pro Tyr Lys His Gly Arg Pro Cys Ser Glu  
145 150 155 160  
Cys Pro Ser Ser Tyr Gly Gly Gly Cys Arg Asn Asn Leu Cys Tyr Arg  
165 170 175  
Glu Glu His Tyr His Gln Lys Pro Glu Trp Met Arg  
180 185

<210> 96  
<211> 258

<212> PRT

<213> Homo sapiens

<400> 96

Met	Ile	Ala	Ile	Ser	Ala	Val	Ser	Ser	Ala	Leu	Leu	Phe	Ser	Leu	Leu
1				5					10					15	
Cys	Glu	Ala	Ser	Thr	Val	Val	Leu	Leu	Asn	Ser	Thr	Asp	Ser	Ser	Pro
			20					25					30		
Pro	Thr	Asn	Asn	Phe	Thr	Asp	Ile	Glu	Ala	Ala	Leu	Lys	Ala	Gln	Leu
		35					40					45			
Asp	Ser	Ala	Asp	Ile	Pro	Lys	Ala	Arg	Arg	Lys	Arg	Tyr	Ile	Ser	Gln
	50					55					60				
Asn	Asp	Met	Ile	Ala	Ile	Leu	Asp	Tyr	His	Asn	Gln	Val	Arg	Gly	Lys
65					70					75					80
Val	Phe	Pro	Pro	Ala	Ala	Asn	Met	Glu	Tyr	Met	Val	Trp	Asp	Glu	Asn
				85					90					95	
Leu	Ala	Lys	Ser	Ala	Glu	Ala	Trp	Ala	Ala	Thr	Cys	Ile	Trp	Asp	His
		100						105					110		
Gly	Pro	Ser	Tyr	Leu	Leu	Arg	Phe	Leu	Gly	Gln	Asn	Leu	Ser	Val	Arg
		115					120					125			
Thr	Gly	Arg	Tyr	Arg	Ser	Ile	Leu	Gln	Leu	Val	Lys	Pro	Trp	Tyr	Asp
	130					135					140				
Glu	Val	Lys	Asp	Tyr	Ala	Phe	Pro	Tyr	Pro	Gln	Asp	Cys	Asn	Pro	Arg
145					150					155				160	
Cys	Pro	Met	Arg	Cys	Phe	Gly	Pro	Met	Cys	Thr	His	Tyr	Thr	Gln	Met
			165						170					175	
Val	Trp	Ala	Thr	Ser	Asn	Arg	Ile	Gly	Cys	Ala	Ile	His	Thr	Cys	Gln
			180					185					190		
Asn	Met	Asn	Val	Trp	Gly	Ser	Val	Trp	Arg	Arg	Ala	Val	Tyr	Leu	Val
		195					200						205		
Cys	Asn	Tyr	Ala	Pro	Lys	Gly	Asn	Trp	Ile	Gly	Glu	Ala	Pro	Tyr	Lys
	210					215					220				
Val	Gly	Val	Pro	Cys	Ser	Ser	Cys	Pro	Pro	Ser	Tyr	Gly	Gly	Ser	Cys
225				230						235				240	

Thr Asp Asn Leu Cys Phe Pro Gly Val Thr Ser Asn Tyr Leu Tyr Trp  
245 250 255

Phe Lys

<210> 97  
<211> 253  
<212> PRT  
<213> Homo sapiens

<400> 97  
Met Pro Leu Leu Pro Ser Thr Val Gly Leu Ala Gly Leu Leu Phe Trp  
1 5 10 15

Ala Gly Gln Ala Val Asn Ala Leu Ile Met Pro Asn Ala Thr Pro Ala  
20 25 30

Pro Ala Gln Pro Glu Ser Thr Ala Met Arg Leu Leu Ser Gly Leu Glu  
35 40 45

Val Pro Arg Tyr Arg Arg Lys Arg His Ile Ser Val Arg Asp Met Asn  
50 55 60

Ala Leu Leu Asp Tyr His Asn His Ile Arg Ala Ser Val Tyr Pro Pro  
65 70 75 80

Ala Ala Asn Met Glu Tyr Met Val Trp Asp Lys Arg Leu Ala Arg Ala  
85 90 95

Ala Glu Ala Trp Ala Thr Gln Cys Ile Trp Ala His Gly Pro Ser Gln  
100 105 110

Leu Met Arg Tyr Val Gly Gln Asn Leu Ser Ile His Ser Gly Gln Tyr  
115 120 125

Arg Ser Val Val Asp Leu Met Lys Ser Trp Ser Glu Glu Lys Trp His  
130 135 140

Tyr Leu Phe Pro Ala Pro Arg Asp Cys Asn Pro His Cys Pro Trp Arg  
145 150 155 160

Cys Asp Gly Pro Thr Cys Ser His Tyr Thr Gln Met Val Trp Ala Ser  
165 170 175

Ser Asn Arg Leu Gly Cys Ala Ile His Thr Cys Ser Ser Ile Ser Val

180	185	190
Trp Gly Asn Thr Trp His Arg Ala Ala Tyr Leu Val Cys Asn Tyr Ala		
195	200	205
Ile Lys Gly Asn Trp Ile Gly Glu Ser Pro Tyr Lys Met Gly Lys Pro		
210	215	220
Cys Ser Ser Cys Pro Pro Ser Tyr Gln Gly Ser Cys Asn Ser Asn Met		
225	230	235
Cys Phe Lys Gly Leu Lys Ser Asn Lys Phe Thr Trp Phe		
245	250	

<210> 98  
 <211> 245  
 <212> PRT  
 <213> Homo sapiens

<400> 98
Met Thr Leu Phe Pro Val Leu Leu Phe Leu Val Ala Gly Leu Leu Pro
1 5 10 15
Ser Phe Pro Ala Asn Glu Asp Lys Asp Pro Ala Phe Thr Ala Leu Leu
20 25 30
Thr Thr Gln Thr Gln Val Gln Arg Glu Ile Val Asn Lys His Asn Glu
35 40 45
Leu Arg Arg Ala Val Ser Pro Pro Ala Arg Asn Met Leu Lys Met Glu
50 55 60
Trp Asn Lys Glu Ala Ala Ala Asn Ala Gln Lys Trp Ala Asn Gln Cys
65 70 75 80
Asn Tyr Arg His Ser Asn Pro Lys Asp Arg Met Thr Ser Leu Lys Cys
85 90 95
Gly Glu Asn Leu Tyr Met Ser Ser Ala Pro Ser Ser Trp Ser Gln Ala
100 105 110
Ile Gln Ser Trp Phe Asp Glu Tyr Asn Asp Phe Asp Phe Gly Val Gly
115 120 125
Pro Lys Thr Pro Asn Ala Val Val Gly His Tyr Thr Gln Val Val Trp
130 135 140

Tyr Ser Ser Tyr Leu Val Gly Cys Gly Asn Ala Tyr Cys Pro Asn Gln  
 145 150 155 160

Lys Val Leu Lys Tyr Tyr Tyr Val Cys Gln Tyr Cys Pro Ala Gly Asn  
 165 170 175

Trp Ala Asn Arg Leu Tyr Val Pro Tyr Glu Gln Gly Ala Pro Cys Ala  
 180 185 190

Ser Cys Pro Asp Asn Cys Asp Asp Gly Leu Cys Thr Asn Gly Cys Lys  
 195 200 205

Tyr Glu Asp Leu Tyr Ser Asn Cys Lys Ser Leu Lys Leu Thr Leu Thr  
 210 215 220

Cys Lys His Gln Leu Val Arg Asp Ser Cys Lys Ala Ser Cys Asn Cys  
 225 230 235 240

Ser Asn Ser Ile Tyr  
 245